

Checklist

# Soutpansberg Mountain: a spider hotspot in the Limpopo Province of South Africa (Arachnida, Araneae)

Ansie S. Dippenaar-Schoeman<sup>1</sup>, T. Caswell Munyai<sup>2</sup>, Colin S. Schoeman<sup>1</sup>, Norbert Hahn<sup>3</sup>, Stefan H. Foord<sup>1,†</sup>

1 SARCHI-Chair on Biodiversity Value and Change, Department of Zoology and Centre for Invasion Biology, School of Mathematical and Natural Science, University of Venda, Private Bag X5050, Thohoyandou 0950, South Africa

2 School of Life Sciences, College of Agriculture, Engineering and Science, University of KwaZulu-Natal, Private Bag X01, Scottsville 32009, South Africa

3 Visiting Professor, Department of Biological Sciences, Faculty of Science, Engineering and Agriculture, University of Venda, Thohoyandou, South Africa

Corresponding authors: Ansie S. Dippenaar-Schoeman ([dippenaaransie@gmail.com](mailto:dippenaaransie@gmail.com)); Norbert Hahn ([norbert.hahn@gmail.com](mailto:norbert.hahn@gmail.com))



This article is part of:

**Gedenkschrift for Prof. Stefan H. Foord**

Edited by Galina Azarkina, Ansie

Dippenaar-Schoeman, Charles Haddad, Robin Lyle, John Midgley, Caswell Munyai

Academic editor: Charles Haddad

Received: 20 August 2024

Accepted: 21 October 2024

Published: 12 November 2024

ZooBank: <https://zoobank.org/933643D5-6D41-451A-8A87-30D0BA362542>

Citation: Dippenaar-Schoeman AS, Munyai TC, Schoeman CS, Hahn N, Foord SH (2024) Soutpansberg Mountain: a spider hotspot in the Limpopo Province of South Africa (Arachnida, Araneae). African Invertebrates 65(2): 85–114. <https://doi.org/10.3897/AfrInvertebr.65.135136>

Copyright: ©

Ansie S. Dippenaar-Schoeman et al.

This is an open access article distributed under terms of the Creative Commons Attribution License (Attribution 4.0 International – CC BY 4.0).

† Deceased

## Abstract

The Soutpansberg Mountain (SM) range in the northern part of the Limpopo Province within the Vhembe Biosphere Reserve, is a refuge for high diversity of organisms due to its geological history and location. As part of the South African National Survey of Arachnida (SANSA), the spider diversity of the Soutpansberg Mountain was determined over 27 years: 58 families, 293 genera, and 585 species were recorded. The Salticidae with 85 species, followed by Thomisidae (81 species), Araneidae, and Gnaphosidae, with 45 species each, are the most species-rich, while 11 families are represented by single species. Global distributions, endemism, and conservation assessment are provided for each species using IUCN criteria. Most species (516, 88.1%) are widely distributed with no known threats and are of Least Concern, whereas eight species (1.4%) are of special concern. Of these, five species are Rare and one each is Critically Rare, Vulnerable, and Near Threatened. Twenty-five new species have been described from the SM since 1997, but 17 species (2.9%) are still Data Deficient, and 44 species were not evaluated due to unresolved taxonomy. The SM represents a spider biodiversity hotspot in the Limpopo Province, representing 25.4% of the total spider fauna of South Africa and 64.3% of the known spider fauna of the Limpopo Province.

**Key words:** Conservation biogeography, endemism, faunistic surveys, global distribution, SANSA, Savanna biome, South African National Survey of Arachnida

## Introduction

The emerging field of conservation biogeography concerns species' distribution dynamics and how they relate to biodiversity conservation (Robertson et al. 2010), and its main currency is valid species-level determinations and distribution data. Biodiversity is one of the most important concepts in contemporary biology and has many applications. In November 1995, South Africa ratified the Convention on Biological Diversity (CBD) and pledged to develop a strategic plan for biodiversity conservation and sustainable use. To meet the

requirements of the CBD, the SANSA was initiated in 1997 with the main aim of discovering, describing and making an inventory of the South African arachnid fauna (Dippenaar-Schoeman et al. 2015). The species distribution data collected since 1997 provided the essential foundational information necessary for the conservation assessments to compile a Red Data List of the Araneae of South Africa (Foord et al. 2020) and a published national checklist of 2265 species (Dippenaar-Schoeman et al. 2023).

The Limpopo Province covers 10.6% of South Africa, and more than 95% of the Limpopo Province falls within the Savanna Biome (Foord et al. 2011; Dippenaar-Schoeman et al. 2013a). The province is one of the more extensively sampled regions, and from the 286 sites sampled, 905 known spider species were documented (Dippenaar-Schoeman et al. 2023). The published records of some of the major surveys undertaken in the province are: Atherstone Game Reserve; Blouberg Nature Reserve (Muelwa et al. 2010; Foord et al. 2019); Farm Amsterdam, Dendron District (Dippenaar-Schoeman et al. 1978); Farm Zandrivier, Lephalale; Ka-Ndengeza and Vyeboom Villages (Joseph et al. 2017; Foord et al. 2018); Lekgalameetse Nature Reserve (Foord et al. 2016); Little Leigh (Foord et al. 2013); Luvhondo Nature Reserve (Foord et al. 2002, 2008); Makelali Nature Reserve (Whitmore et al. 2001, 2002); Marakele National Park (Dippenaar-Schoeman et al. 2021); Nylsvley Nature Reserve (Dippenaar-Schoeman et al. 2009); Pietersburg Nature Reserve (Dippenaar et al. 2008); Rust de Winter cotton surveys (Dippenaar-Schoeman et al. 1999, 2013b); Sovenga Hill (Modiba et al. 2005); Syferkuil; Venetia Limpopo Nature Reserve; Vhembe Biosphere Reserve (Schoeman and Foord 2021); Western Soutpansberg Transect (WST) (Munyai and Foord 2012a; Foord et al. 2013, 2022) and Waterberg Biosphere (Foord 2023). The province is characterized by a complex mosaic of habitats, and the 55 endemic spider species so far recorded indicate a high degree of endemism (Dippenaar-Schoeman et al. 2023).

The Soutpansberg is the northernmost mountain range in South Africa, situated in the northern part of the Limpopo Province and within the Vhembe Biosphere Reserve and Savanna Biome. It is one of the oldest mountain ranges in southern Africa, and it is assumed that this geomorphological feature was created by faulting that occurred about 150 Ma ago (Haddon and McCarthy 2005), and that during the last  $\pm$  60 Ma, erosion formed the landscape as we see it today. Due to its age the Soutpansberg harbours spider species that belong to ancient evolutionary lineages (Jocqué 2008; Haddad 2009; Jocqué et al. 2013; Jocqué and Henrard 2015). This ancient mountain range is influenced by diverse biogeographical elements and contemporary drivers of change (Hahn 2011). Its geological history and location constitute a refuge for a high diversity of organisms. It is a major centre of plant endemism and biodiversity and has the highest plant generic and family-level diversity among the 18 Centres of Plant Endemism in southern Africa (Van Wyk and Smith 2001).

The research findings on spiders in the SM is presented herein, providing a measure of what has been achieved and identifies directions for future research. The annotated checklist consolidates all the data on spider species sampled and described from the SM. It provides information on the global distribution, endemism, and conservation status for all 585 species and highlights species of special concern and those that are data deficient. Lastly, we comment on the significance of the SM as a biodiversity hotspot in the Limpopo Province within a national context.

## Material and methods

### Study area

The SM range stretches about 210 km eastward and forms a geographic unit with the Makgabeng Plateau, Blouberg Mountain to the west and the Waterberg to the south. The Western Soutpansberg (WSM), stretching from Wyllie's Poort to the town of Vivo about 70 km west, is the most intensive sampled region of the mountain (Fig. 1). The SM incorporates the mountain massif proper and includes a 25 km boundary stretching into the surrounding flat lands (Foord et al. 2002) (Fig. 2). The Soutpansberg's upper southern slopes are characterised by a more temperate climate, being strongly influenced by orographic cloud precipitation, whereas the northern slopes are much drier and hotter (Hahn 2006; Mostert et al. 2008). The highest peak of the SM is Lajuma ( $23^{\circ}02'S$ ,  $29^{\circ}26'E$ ) at 1747 m a.s.l. Spider data was sampled from sixteen survey sites, and one transect on the SM (Fig. 1, Table 1).

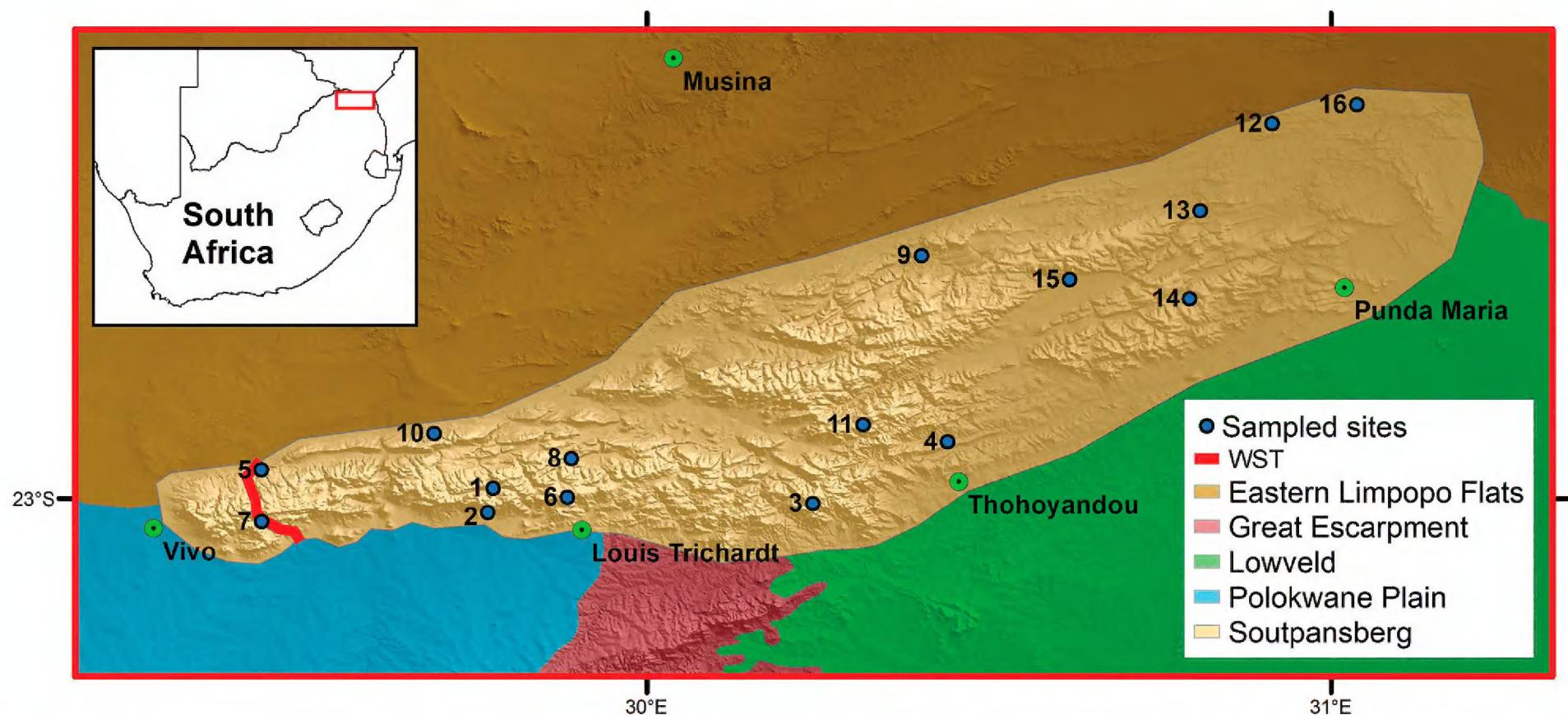


Figure 1. Map of Soutpansberg Mountain (SM), showing the 16 sites (1–16) and Western Soutpansberg Transect (WST, red band) sampled under the supervision of Prof S. Foord, students and collaborators.



Figure 2. University of Venda students sampling spiders on the middle plateau of the Soutpansberg Mountain (SM).

**Table 1.** Sites sampled on the Soutpansberg Mountain (SM) with the number of spider specimens collected. \* Denotes sites sampled during the Vhembe Biosphere Survey (see Fig. 1).

Sites on soutpansberg	Coordinates	No spider specimens sampled
1. Bluegumspoort (farm) *	-22.965, 29.894	31
2. Buzzard Mountain *	-23.003, 29.770	52
3. Entabeni State Forest *	-23.018, 30.243	266
4. Gondeni (Communal land) *	-22.913, 30.064	72
5. Goro Game Reserve *	-22.939, 29.428	662
6. Hanglip State Forest *	-22.998, 29.886	62
7. Lajuma (part of Lhuvhondo Nat. Res.) *	-23.038, 29.441	1759
8. Little Leigh (farm, now Morningsun)	-22.934, 29.894	1072
9. Nwanedi Game Reserve *	-22.644, 30.370	64
10. Rochdale (farm). Waterpoort	-22.533, 29.417	72
11. Thathe Vondo State Forest *	-22.876, 30.323	11
12. Tshikondeni area	-22.451, 30.913	227
13. Tshulu River Research Camp	-22.579, 30.809	170
14. Vhurivhuri	-22.707, 30.793	310
15. Vhuvha (Communal land)	-22.679, 30.617	14
16. Wallers Camp	-22.424, 31.037	142
Red band-Western Soutpansberg Transect (WST) (11 sites)		10541
		15527

## Collecting methods

The SM spiders were sampled over 27 years from 27 sites using different collecting methods. For the SANSA surveys, a standardised rapid sampling protocol was followed, sampling ground-dwelling spiders with pitfall traps, leaf litter sifting, and active searching at the base of grass tussocks and under rocks. Plant-dwelling species were collected by beating, sweeping, actively searching on vegetation and flowers, and tree fogging (Haddad and Dippenaar-Schoeman 2015).

During the 6-year long-term surveys in the WS, spiders were sampled twice a year during the hot-dry and hot-wet seasons in 11 elevational zones spaced at 200 m altitudinal distances. Sampling within a zone consisted of four replicates at least 300 m apart. Replicates contained ten pitfall traps in a 10 × 50 grid. Traps were left open for five days (Foord et al. 2022). Voucher specimens sampled from the SM are housed at the National Collection of Arachnida (NCA) at the Agricultural Research Council (ARC) in Pretoria, South Africa.

## Source of information

Information on spider diversity for the SM was obtained from different data-sets. Data was extracted from taxonomic (66) and faunistic (8) published papers and primary specimens' data housed in natural history museums gathered by visiting scientists.

The following national and international projects were involved.

1. The SANSA project (1997 to 2023) involved the ARC and the South African National Biodiversity Institute (SANBI), Threatened Species Programme phase 2, which received funding in 2006 through the Royal Norwegian Ministry for surveys to obtain data to produce a Red List of South African spiders.

2. In 2008, Dr Rudy Jocqué of the African Museum in Belgium and twelve researchers from Africa, Belgium, Germany, South America, Switzerland and the United States of America were funded through the international PBI-Oonopidae project to visit the SM over ten days. The group conducted tree fogging in Afro-montane high forests and closed woodlands, using it as a collecting method for the family Oonopidae.
3. Prof S. Foord received funding and logistic support from the Department of Science & Technology (DST) – National Research Foundation (NRF) and through the Centre of Excellence for Invasion Biology for long-term surveys (2009–2015).
4. Prof S. Foord received further funding from the South African Research Chairs Initiative (SARCHI) on Biodiversity Value and Change in the Vhembe Biosphere Reserve, which was hosted and supported by the University of Venda to further support the various additional surveys from 2016 onwards.

### **Soutpansberg Mountain surveys**

Surveys by the universities of Ghent, Pretoria and Venda were undertaken to address research projects by students and collaborators. During the first surveys (1996–2002) hand collection, sweeping, beating, and pitfall traps were used to produce the first checklist of the SM, listing 46 families and 127 species (Foord et al. 2002). This was followed in 2004–2005 by a study on fine-scale variation in spider assemblages in five representative vegetation types. The vegetation types were assessed in terms of spider family and species present, as well as levels of endemism and differences related to vegetation structure. The results suggest that endemic spider taxa are more associated with tall forest and to a lesser extent, woodland (Foord et al. 2008).

In November–December (2005) and late summer March (2006), surveys were conducted on the Blouberg Nature Reserve and Little Leigh in the SM to try to develop standardised and optimised methods for rapid biodiversity assessments (Muellew et al. 2010). Results showed that collector experience did not affect the inventory results, whereas the time of day when sampling took place had a very small yet significant effect. Seasonality only affected abundance and richness but not assemblage composition.

Several factors affect the inclusion of spiders in conservation planning initiatives, and surrogates could help their incorporation. Including spiders in biodiversity inventories is desirable, but the demand for time and resources is immense. Foord et al. (2013) tested the performance of several surrogate measures, such as using higher taxa (genus, family), cross-taxon surrogates that are subsets of the spider assemblages (only certain spider families) or non-overlapping groups (woody vegetation and birds) and the use of morphospecies. The results show that using morphospecies as estimators cautiously supported species richness estimates.

A very important contribution to our knowledge of spiders of the SM were the long-term transect surveys, funded by the DST-NRF Centre for Invasion Biology at the University of Stellenbosch, to investigate the possible effect of climate change on spiders. The first transect survey was undertaken in the Cederberg Mountains in the Western Cape (Foord and Dippenaar-Schoeman 2016). The second transect survey in the WSM began in 2006. The initial transect was laid

out by Prof N. Hahn in an approximate north-south orientation (Fig. 1) across one of the narrowest sections of the WSM just below its highest point, Lajuma. The transect comprised nine sampling sites spaced at every 200 m contour interval over a distance of 17.4 km. The transect was subsequently expanded to incorporate four replicates at each site as part of Dr C. Munyai's MSc and PhD studies (2009–2015). Two additional sampling sites were added, and pitfall traps were used to sample twice a year during this period onwards. The altitudinal transect represents a gradient from open grassy habitats to woodland, shrubland, sedge-land, forest and thicket. These transect surveys provided the most cost-effective and succinct picture of the response of organisms and biotic assemblages to global climate change in the tropics and subtropics (Munya and Foord 2012a, b; Munyai and Foord 2015; Foord and Dippenaar-Schoeman 2016).

Between 2012–2013, Dr C. Schoeman studied the beta diversity and turnover of beetles and spiders using pitfall traps across five longitudinal transects in the Vhembe Biosphere Reserve, representing the different vegetation units in the region. Eleven Vhembe sites (indicated in Table 1 with an asterisk) sampled were from the SM (Table 1, Fig. 1) (Schoeman and Foord 2021).

### Identification and voucher specimens

Assessing the SM's spider diversity was particularly challenging because of the large number of specimens sampled (>15 500) and the large number of species (585) identified. Only 44 species that were immature, new, or with unresolved taxonomy could not be determined to species level. One of the constraints for spider surveys is the lack of good taxonomic revisions for many of the larger spider families in Africa. No revisions or keys are available, making species-level identification time-consuming and difficult.

To address the taxonomic constraints, the 72 online photo identification guides for the South African spider families were used. The SANSA guides contain known information on all the genera and species listed in South Africa. Species-level information includes distribution maps for species, drawings and photographs of diagnostic morphological characteristics, notes on their behaviour, a conservation assessment and possible threats. Complete guides can be downloaded from the World Spider Catalog (<http://wsc.nmbe.ch>, doi: 10.24436/2) as well as from Zenodo <https://zenodo.org/communities/sansa/>). The availability of a large number of specimens taken over different seasons resulted in most of the species being identified from both adult and immature specimens.

All the material sampled was sorted, identified and databased by the first author (Prof A. Dippenaar-Schoeman). The identification of Corinnidae, Salticidae and Trachelidae was done by Prof C.R. Haddad (Department of Entomology and Zoology, University of the Free State, South Africa). The voucher specimens are housed at the NCA in Pretoria.

### Endemicity

The endemicity index (END) was provided for each species. It was calculated based on the global distribution of a species and included six endemicity categories, ranging from **6**: species known only from the type locality (SM); **5**: species known from several localities in the Limpopo Province; **4**: species sam-

pled from two adjacent provinces; **3**: species sampled from  $\geq$  three provinces in South Africa; **2**: species occur outside South Africa, but within southern Africa; **1**: species found throughout the Afrotropical Region; **0**: species occur beyond the Afrotropical Region and generally include widespread cosmopolitan species. The terms used are **SAE**: species endemic to South Africa; **STHE**: species endemic to southern Africa; **AE**: species endemic to the Afrotropical Region; and **C**: species that also occur beyond the Afrotropical Region.

## Conservation assessment

As part of the Red Listing Spider project, the preliminary conservation status of all South African spider species was determined using the International Union for Conservation of Nature and Natural Resources (IUCN) criteria (Foord et al. 2020). The immature and possibly new species collected that could not be identified to species level using current taxonomic literature were not evaluated (**NE**). Preliminary conservation status of species as determined are listed with the following codes: **DD** (Data Deficient): species usually known from only one sex or based on old material without detailed locality data and where the species is difficult to identify; **LC** (Least Concern): species with a broad distribution (categories 0–2), without known threats; those of categories 3 and 4 are South African endemics (SAE) and many of them are also LC. Species of special concern (Rare, Critically Rare, Vulnerable and Threatened) usually belong to categories 5 or 6.

## Results and discussion

### Family diversity

In compiling the checklist, approximately 15 527 records from 27 sites were available from SM until the end of 2023 and 58 families, 293 genera and 585 species were recorded. The Salticidae (85 spp.), Thomisidae (81 spp.), Araneidae (45 spp.) and Gnaphosidae (45 spp.) were the most species-rich families, and 11 families are only represented by a single species (Table 2). Results from surveys in the Limpopo Province show that the same four spider families consistently dominate species richness (Foord et al. 2011; Haddad et al. 2013). Although South Africa has the richest described spider fauna on the African continent (Dippenaar-Schoeman et al. 2023), many families have never been subjected to revision and continue to present a considerable identification challenge to taxonomists. During this study, families with large proportions of undescribed species include the Agele-nidae, Araneidae, Cyrtacheniidae, Theridiidae and Trachelidae. Representatives of some of the ground and plant-hunting spider species of the Soutpansberg are provided in Figs 3–17 and some of the web-building spider species in Figs 18–32.

### Salticidae

The Salticidae are free-living spiders that live on tree trunks, soil, rocks, and vegetation. They build small silk nests attached to various substrates to moult, oviposit, and sometimes to mate or occupy when inactive (Dippenaar-Schoeman 2023). The 85 salticid species from SM represent 14.5% of the total fauna (Table 2). The genus *Thyene* Simon, 1885 is one of the most species-rich genera in the SM, with

**Table 2.** Spider diversity of the Soutpansberg Mountain (SM) with families and their total number of genera (GEN) and species (SPP.) sampled.

Family	GEN	SPP.	%	Family	GEN	SPP.	%
Agelenidae	4	9	1.7	Mimetidae	3	3	0.5
Anapidae	1	1	0.2	Nesticidae	1	1	0.2
Araneidae	22	45	7.7	Oecobiidae	2	2	0.3
Archaeidae	1	2	0.3	Oonopidae	3	4	0.7
Barychelidae	2	2	0.4	Orsolobidae	2	2	0.3
Bemmeridae	1	1	0.2	Oxyopidae	3	21	3.6
Caponiidae	1	1	0.2	Palpimanidae	2	5	0.9
Cheiracanthiidae	2	14	2.4	Penestomidae	1	1	0.2
Clubionidae	1	8	1.5	Philodromidae	6	16	2.7
Corinnidae	11	14	2.4	Pholcidae	3	7	1.2
Ctenidae	2	4	0.7	Phyxelididae	3	3	0.5
Cyatholipidae	1	2	0.3	Pisauridae	9	11	1.9
Cyrttaucheniiidae	1	5	0.9	Prodidomidae	4	7	1.2
Deinopidae	2	2	0.3	Salticidae	43	85	14.5
Dictynidae	3	3	0.5	Scytodidae	1	4	0.7
Entypesidae	1	2	0.3	Segestriidae	1	1	0.2
Eresidae	4	7	1.2	Selenopidae	2	9	1.5
Euagridae	1	1	0.2	Sicariidae	2	3	0.5
Filistatidae	1	1	0.2	Sparassidae	4	8	1.4
Gallieniellidae	2	2	0.3	Stasimopidae	1	1	0.2
Gnaphosidae	18	45	7.7	Tetragnathidae	5	14	2.4
Hahniidae	1	1	0.2	Theraphosidae	5	6	1.0
Hersiliidae	2	4	0.7	Theridiidae	20	28	4.8
Idiopidae	4	4	0.7	Thomisidae	22	81	13.8
Linyphiidae	6	7	1.2	Trachelidae	10	14	2.4
Liocranidae	1	2	0.3	Trochanteriidae	1	3	0.5
Lycosidae	13	20	3.4	Uloboridae	4	5	0.9
Macrobrunidae	3	3	0.5	Zodariidae	15	25	4.3
Migidae	2	2	0.3	Zoropsidae	1	1	0.2
				<b>58 families</b>	<b>293</b>	<b>585</b>	<b>100</b>

11 species. Almost half of the species (49.4%) are African endemics, 28.2% are southern African endemics, and three species are known more widely than Africa (Table 6). Three species were recently described from SM: *Phintella lajuma* Haddad & Wesołowska, 2013 (Fig. 14), *Rumburak tuberatus* Wesołowska, Azarkina & Russell-Smith, 2014 (Fig. 15) and *Tomomingi szutsi* Wesołowska & Haddad, 2013. Two salticid species were undetermined, but the *Langelurillus* species was identified as new and is awaiting taxonomic description.

### Thomisidae

The thomisids are free-living spiders commonly found on grass, shrubs, flowers and trees, with only a few species occurring on the soil surface (Dippenaar-Schoeman 2023). The 81 species recorded from the SM represent 13.8% of the total fauna (Table 2), and *Thomisus* Walckenaer, 1805 (9 spp.) is the most species-rich genus. Wind easily disperses juvenile thomisids, and most species have a wide distribution. Fifty-eight species (71.6%) are African endemics, 17.3% are southern African endemics, and five species are known more widely than Africa. Only four species are South African endemics (Table 6). Although



**Figures 3–17.** Representative hunting spiders of the Soutpansberg Mountain **3** *Afrarchaea entabeniensis* (Archaeidae) **4** *Cheiramiona lajuma* (Cheiracanthiidae) **5** *Hortipes contubernalis* (Corinnidae) **6** *Vendaphaea lajuma* (Corinnidae) **7** *Afro-pesa schoutedeni* (Entypesidae) **8** *Drassodella venda* (Gallieniellidae) **9** *Asemesthes ceresicola* (Gnaphosidae) **10** *Ibalus arcus* (Gnaphosidae) **11** *Tyrotama soutpansbergensis* (Hersiliidae) **12** *Evippomma squamulatum* (Lycosidae) **13** *Nilus massajae* (Pisauridae) **14** *Phintella lajuma* (Salticidae) **15** *Rumburak tuberatus* (Salticidae) **16** *Heriaeus crassispinus* (Thomisidae) **17** *Cydrela schoemanae* (Zodariidae). Photo credits: **3** L. Lotz **6** C. Haddad **4, 5, 7–17** P. Webb.

no thomisids species have been newly described from SM, specimens were included in several generic revisions, e.g. *Heriaeus crassispinus* Lawrence, 1942 (Fig. 16), *Mystaria savannensis* Lewis & Dippenaar-Schoeman, 2014 and *Sylligma ndumi* Honiball & Dippenaar-Schoeman, 2011.

### Araneidae

The Araneidae are web-dwellers and produce typical or modified orb-webs; 45 species are known from SM, which represents 7.7% of the total spider fauna (Table 2). The taxonomy of many genera in Africa is still unresolved, and six of the 45 species were not assessed for IUCN due to a lack of taxonomic resolution. The family is diverse, and 22 genera have been sampled. The species have a wide distribution, and 21 species (46.6%) are African endemics, 15.5% are southern African endemics, and eight species are known more widely than Africa. Only three species, *Nemoscolus elongatus* Lawrence, 1947, *Singa albodorsata* Kauri, 1950 and *Ursa turbinata* Simon, 1895 are South African endemics (Table 6).

### Gnaphosidae

The gnaphosids are free-living spiders and commonly found on the ground and low vegetation (Dippenaar-Schoeman 2023). The diversity of Gnaphosidae is generally higher in more arid savanna habitats in South Africa. The 18 genera and 45 species collected from the SM represent 7.7% of the SM spider fauna (Table 2). *Zelotes* Gistel, 1848 (Gnaphosidae, 14 spp.) and *Asemesthes* Simon, 1887 (Gnaphosidae, 10 spp.) are the most species-rich genera (Table 6). Eight species (17.8%) are African endemics, 23 species (51.1%) are southern African endemics, only one species, *Setaphis subtilis* (Simon, 1897), is known more widely than Africa, and 12 species (8.3%) are South African endemics. The species *Asemesthes ceresicola* Tucker, 1923 (Fig. 9) and *Ibala arcus* (Tucker, 1923) (Fig. 10) were the most abundant species and recorded from most of the localities.

### Endemicity

Of the species identified at the species level, 231 (39.5%) have a wide distribution throughout Africa, 36 (6.2%) are also found in countries beyond Africa, 152 (26%) occur more widely in southern Africa, and 116 species (22.3%) are endemic to South Africa (Table 3). Of the 44 species not evaluated, 23 could not be determined to species level due to unresolved taxonomy. However, 20 spp. have already been identified as possibly new to science, which will increase the number of endemic species in the SM (Table 5). The new species represent several families poorly represented in the Limpopo Province, e.g., the Cyrtacheniidae, Macrobrunidae, Migidae, Penestomidae and Stasimopidae.

Since 1997, 66 articles containing information on species collected on the SM have been published. Of these, 50 were generic revisions for species belonging to 20 families. Taxonomic work resulted in recognising 25 species newly described from the SM since 1997 (indicated in Table 6 with an asterisk). The Limpopo Province now has 55 endemic species (Dippenaar-Schoeman et al. 2023) and 20 of these species have been recorded from the SM, with four species being endemic to the SM: *Afrarchaea entabeniensis* Lotz,



**Figures 18–32.** Representative web-building spiders of the Soutpansberg Mountain **18** *Araneus nigroquadratus* (Araneidae) **19** *Bijoaraneus legonensis* (Araneidae) **20** *Eriovixia excelsa* (Araneidae) **21** *Kilima decens* (Araneidae) **22** *Neoscona subfuscata* (Araneidae) **23** *Pararaneus spectator* (Araneidae) **24** *Cyatholipus isolatus* (Cyatholipidae) **25** *Menneus camelus* (Deinopidae) **26** *Stegodyphus mimosarum* (Eresidae) **27** *Quamtana entabeni* (Pholcidae) **28** *Euprosthenopsis vuattouxi* (Pisauridae) **29** *Ariadna bilineata* (Segestriidae) **30** *Tetragnatha bogotensis* (Tetragnathidae) **31** *Argyrodes zonatus* (Theridiidae) **32** *Miagrammopes brevicaudus* (Uloboridae). Photos credits: **24** J. Miller; rest P. Webb.

2003 (Archaeidae, Fig. 3), *Afropesa schoutedeni* (Benoit, 1965) (Fig. 7) and *A. schwendingeri* Zonstein & Ríos-Tamayo, 2021 (Entypesidae), and *Loxosceles haddadi* Lotz, 2017 (Sicariidae). However, more data is needed for these species, as two are listed as Data Deficient.

**Table 3.** Endemicity of the 585 spider species sampled at the Soutpansberg Mountain (SM).

Endemicity	Spp.	%
0 – Africa and wider (C)	36	6.2
1 – African endemics (AE)	231	39.5
2 – Southern African endemics (STHE)	152	26
3 – SA endemics (SAE)	92	15.7
4 – SA (SAE): 2 adjacent provinces	10	1.7
5 – Limpopo Province endemics (LPE)	16	2.7
6 – Known only from the type locality	4	0.7
Not evaluated: new (20 spp.); undetermined (22 spp.); immature (2 spp.)	44	7.5

**Table 4.** Conservation status of the spider species sampled from the Soutpansberg Mountain (SM).

Conservation status	Spp.	%
Data Deficient (DD)	17	2.9
Least Concern (LC)	516	88.2
<b>Species special concern</b>		
Rare (RA)	5	0.9
Critical Rare (CR)	1	0.2
Vulnerable (VU)	1	0.2
Near Threatened (NT)	1	0.2
Not evaluated (NE)	44	7.5
	585	~100.00

**Table 5.** Species of special concern from the Soutpansberg Mountain (SM). Conservation status (CON) and Endemicity (END): CR = Critical Rare; RA = Rare; VU = Vulnerable; NT = Near Threatened; LE = Limpopo endemic; SME = Soutpansberg endemic.

Species	CON	END
<b>Archaeidae</b>		
<i>Afrarchaea entabeniensis</i> Lotz, 2003 (Fig. 3)	CR	LE (SME)
<b>Corinnidae</b>		
<i>Hortipes contubernalis</i> Bosselaers & Jocqué, 2000 (Fig. 5)	RA	LE
<b>Cyatholipidae</b>		
<i>Cyatholipus isolatus</i> Griswold, 1987 (Fig. 24)	NT	Near LE
<b>Hersiliidae</b>		
<i>Tyrotama soutpansbergensis</i> Foord & Dippenaar-Schoeman, 2005 (Fig. 11)	VU	LE
<b>Pholcidae</b>		
<i>Quamtana entabeni</i> Huber, 2003 (Fig. 27)	RA	LE
<i>Smeringopus hanglip</i> Huber, 2012	RA	LE
<b>Tetragnathidae</b>		
<i>Diphya wesolowskae</i> Omelko, Marusik & Lyle, 2020	RA	LE
<b>Zodariidae</b>		
<i>Australutica africana</i> Jocqué, 2008	RA	LE

**Table 6.** Checklist of the spider species from the Soutpansberg Mountain in Limpopo Province listing their endemism score (END), conservation status (CS) and global distribution score (DIS). \* Species described from Soutpansberg Mountain.

Family / Species	END	CS	DIS
<b>Family Agelenidae C.L. Koch, 1837</b>			
<i>Agelena australis</i> Simon, 1896	1	LC	AE
<i>Agelena gaerdesi</i> Roewer, 1955	2	LC	STHE
<i>Agelena</i> sp. 3 (undetermined)	–	NE	–
<i>Benoitia deserticola</i> (Simon, 1910)	2	LC	STHE
<i>Benoitia ocellata</i> (Pocock, 1900)	1	LC	AE
<i>Benoitia</i> sp. 3 (undetermined)	–	NE	–
<i>Benoitia</i> sp. 4 (undetermined)	–	NE	–
<i>Mistaria zuluana</i> (Roewer, 1955)	2	LC	STHE
<i>Olorunia punctata</i> Lehtinen, 1967	1	LC	AE
<b>Family Anapidae Simon, 1895</b>			
<i>Crozetulus rhodesiensis</i> Brignoli, 1981	2	LC	STHE
<b>Family Araneidae Clerck, 1757</b>			
<i>Acanthepeira</i> sp. 1 (undetermined)	–	NE	–
<i>Arachnura scorpionoides</i> Vinson, 1863	1	LC	AE
<i>Araneus apricus</i> Karsch, 1884	1	LC	AE
<i>Araneus nigroquadratus</i> Lawrence, 1937 (Fig. 18)	2	LC	STHE
<i>Araneus strupifer</i> (Simon, 1886)	1	LC	AE
<i>Araneus</i> sp. 4 (undetermined)	–	NE	–
<i>Araneus</i> sp. 5 (new)	–	NE	–
<i>Argiope australis</i> (Walckenaer, 1805)	1	LC	AE
<i>Argiope lobata</i> (Pallas, 1772)	0	LC	C
<i>Argiope levii</i> Bjørn, 1997	1	LC	AE
<i>Bijoaraneus legonensis</i> (Grasshoff & Edmunds, 1979) (Fig. 19)	1	LC	AE
<i>Caerostris sexcuspidata</i> (Fabricius, 1793)	1	LC	AE
<i>Caerostris vicina</i> (Blackwall, 1866)	1	LC	AE
<i>Chorizopes</i> sp. 1 (undetermined)	–	NE	–
<i>Cyclosa insulana</i> (Costa, 1834)	0	LC	C
<i>Cyclosa oculata</i> (Walckenaer, 1802)	0	LC	C
<i>Cyphalonotus larvatus</i> (Simon, 1881)	1	LC	AE
<i>Cyrtophora citricola</i> (Forsskål, 1775)	0	LC	C
<i>Eriovixia excelsa</i> (Simon, 1889) (Fig. 20)	0	LC	C
<i>Gasteracantha milvoides</i> Butler, 1873	1	LC	AE
<i>Gasteracantha sanguinolenta</i> C.L. Koch, 1844	1	LC	AE
<i>Gea</i> sp. 1 (undetermined)	–	NE	–
<i>Hypsosinga holzapfelae</i> (Lessert, 1936)	2	LC	STHE
<i>Hypsosinga lithyphantoides</i> Caporiacco, 1947	1	LC	AE
<i>Isoxya tabulata</i> (Thorell, 1859)	1	LC	AE
<i>Kilima decens</i> (Blackwall, 1866) (Fig. 21)	1	LC	AE
<i>Nemoscolus cotti</i> Lessert, 1933	2	LC	STHE
<i>Nemoscolus elongatus</i> Lawrence, 1947	3	LC	SAE
<i>Nemoscolus tubicola</i> (Simon, 1887)	2	LC	STHE
<i>Nemoscolus vigintipunctatus</i> Simon, 1897	2	LC	STHE
<i>Neoscona blondeli</i> (Simon, 1886)	1	LC	AE
<i>Neoscona penicillipes</i> (Karsch, 1879)	1	LC	AE
<i>Neoscona quincasea</i> Roberts, 1983	1	LC	AE
<i>Neoscona rapta</i> (Thorell, 1899)	1	LC	AE
<i>Neoscona subfuscata</i> (C.L. Koch, 1837) (Fig. 22)	0	LC	C
<i>Neoscona triangula</i> (Keyserling, 1864)	0	LC	C
<i>Pararaneus spectator</i> (Karsch, 1885) (Fig. 23)	0	LC	C

Family / Species	END	CS	DIS
<i>Pararaneus</i> sp. 2 (immature)	-	NE	-
<i>Prasonica albolimbata</i> Simon, 1895	1	LC	AE
<i>Prasonica seriata</i> Simon, 1895	1	LC	AE
<i>Singa albodorsata</i> Kauri, 1950	3	LC	SAE
<i>Singa lawrencei</i> (Lessert, 1930)	1	LC	AE
<i>Ursa turbinata</i> Simon, 1895	3	LC	SAE
<i>Trichonephila fenestrata</i> (Thorell, 1859)	2	LC	STHE
<i>Trichonephila senegalensis annulata</i> (Thorell, 1859)	2	LC	STHE
<b>Family Archaeidae C.L. Koch &amp; Berendt, 1854</b>			
<i>Afrarchaea bergae</i> Lotz, 1996 *	4	LC	SAE
<i>Afrarchaea entabeniensis</i> Lotz, 2003 * (Fig. 3)	6	CR	SAE
<b>Family Barychelidae Simon, 1889</b>			
<i>Pisenor notius</i> Simon, 1889	1	LC	AE
<i>Sipalolasma humicola</i> (Benoit, 1965)	1	LC	AE
<b>Family Bemmeridae Simon, 1903</b>			
<i>Homostola pardalina</i> (Hewitt, 1913)	3	LC	SAE
<b>Family Caponiidae Simon, 1890</b>			
<i>Caponia chelifera</i> Lessert, 1936	2	LC	STHE
<b>Family Cheiracanthiidae Wagner, 1887</b>			
<i>Cheiracanthium aculeatum</i> Simon, 1884	1	LC	AE
<i>Cheiracanthium africanum</i> Lessert, 1921	1	LC	AE
<i>Cheiracanthium angolensis</i> Lotz, 2007	2	LC	STHE
<i>Cheiracanthium furculatum</i> Karsch, 1879	1	LC	AE
<i>Cheiracanthium schenkelii</i> Caporiacco, 1949	1	LC	AE
<i>Cheiracanthium vansonii</i> Lawrence, 1936	1	LC	AE
<i>Cheiramiona clavigera</i> (Simon, 1897)	3	LC	SAE
<i>Cheiramiona filipes</i> (Simon, 1898)	2	LC	STHE
<i>Cheiramiona krugerensis</i> Lotz, 2003	3	LC	SAE
<i>Cheiramiona lajuma</i> Lotz, 2003 * (Fig. 4)	3	LC	SAE
<i>Cheiramiona langi</i> Lotz, 2003 *	2	DD	STHE
<i>Cheiramiona mlawula</i> Lotz, 2003	2	LC	STHE
<i>Cheiramiona paradisus</i> Lotz, 2003	2	LC	STHE
<i>Cheiramiona simplicitarsis</i> (Simon, 1910)	3	LC	SAE
<b>Family Clubionidae Wagner, 1887</b>			
<i>Clubiona abbajensis</i> Strand, 1906	1	LC	AE
<i>Clubiona africana</i> Lessert, 1921	1	LC	AE
<i>Clubiona bevisi</i> Lessert, 1923	3	LC	SAE
<i>Clubiona durbana</i> Roewer, 1951	3	LC	SAE
<i>Clubiona godfreyi</i> Lessert, 1921	1	LC	AE
<i>Clubiona lawrencei</i> Roewer, 1951	2	LC	STHE
<i>Clubiona pongolensis</i> Lawrence, 1952	3	LC	SAE
<i>Clubiona pupillaris</i> Lawrence, 1938	3	LC	SAE
<b>Family Corinnidae Karsch, 1880</b>			
<i>Apochinomma formicaeforme</i> Pavesi, 1881	1	LC	AE
<i>Cambalida dippenaarae</i> Haddad, 2012	1	LC	AE
<i>Cambalida fulvipes</i> (Simon, 1896)	1	LC	AE
<i>Coenoptychus tropicalis</i> (Haddad, 2004)	1	LC	AE
<i>Copa flavoplumosa</i> Simon, 1885	1	LC	AE
<i>Corinnomma lawrencei</i> Haddad, 2006	1	LC	AE
<i>Corinnomma semiglabrum</i> (Simon, 1896)	1	LC	AE
<i>Graptartia granulosa</i> Simon, 1896	1	LC	AE
<i>Hortipes contubernalis</i> Bosselaers & Jocqué, 2000 * (Fig. 5)	5	RA	SAE
<i>Merenius simoni</i> Lessert, 1921	1	LC	AE
<i>Messapus natalis</i> (Pocock, 1898)	2	LC	STHE

Family / Species	END	CS	DIS
<i>Pronophaea natalica</i> Simon, 1897	3	LC	SAE
<i>Pronophaea</i> sp. 2 (new)	-	NE	-
<i>Vendaphaea lajuma</i> Haddad, 2009 * (Fig. 6)	5	DD	SAE
<b>Family Ctenidae Keyserling, 1877</b>			
<i>Anahita</i> sp. 1 (undetermined)	-	NE	-
<i>Ctenus gulosus</i> Des Arts, 1912	2	LC	STHE
<i>Ctenus pulchriventris</i> (Simon, 1896)	2	LC	STHE
<i>Ctenus transvaalensis</i> Benoit, 1981	3	LC	SAE
<b>Family Cyatholipidae Simon, 1894</b>			
<i>Cyatholipus isolatus</i> Griswold, 1987 * (Fig. 24)	4	NT	SAE
<i>Cyatholipus</i> sp. 2 (new)	-	NE	-
<b>Family Cyrtauchenidae Simon, 1889</b>			
<i>Ancylotrypa brevipalpis</i> (Hewitt, 1916)	3	LC	SAE
<i>Ancylotrypa elongata</i> Purcell, 1908	2	LC	STHE
<i>Ancylotrypa nuda</i> (Hewitt, 1916)	3	LC	SAE
<i>Ancylotrypa</i> sp. 4 (new)	-	NE	-
<i>Ancylotrypa</i> sp. 5 (new)	-	NE	-
<b>Family Deinopidae C.L. Koch, 1850</b>			
<i>Asianopis cornigera</i> (Gerstäcker, 1873)	1	LC	AE
<i>Menneus camelus</i> Pocock, 1902 (Fig. 25)	3	LC	SAE
<b>Family Dictynidae O. Pickard-Cambridge, 1871</b>			
<i>Archaeodictyna condocta</i> (O.Pickard-Cambridge, 1876)	0	LC	C
<i>Dictyna</i> sp. 1 (undetermined)	-	NE	-
<i>Mashimo leleupi</i> Lehtinen, 1967	1	LC	AE
<b>Family Entypesidae Bond, Opatova &amp; Hedin, 2020</b>			
<i>Afropesa schoutedeni</i> (Benoit, 1965) * (Fig. 7)	6	LC	SAE
<i>Afropesa schwendingeri</i> Zonstein & Ríos-Tamayo, 2021*	6	DD	SAE
<b>Family Eresidae C.L. Koch, 1845</b>			
<i>Dresserus colsoni</i> Tucker, 1920	3	LC	SAE
<i>Paradonea presleyi</i> Miller, Griswold, Scharff, Rezac, Szuts & Marhabaie, 2012	2	LC	STHE
<i>Paradonea</i> sp. 2 (new)	-	NE	-
<i>Seothyra fasciata</i> Purcell, 1904	2	LC	STHE
<i>Stegodyphus africanus</i> (Blackwall, 1866)	1	LC	AE
<i>Stegodyphus dumicola</i> Pocock, 1898	2	LC	STHE
<i>Stegodyphus mimosarum</i> Pavesi, 1883 (Fig. 26)	1	LC	AE
<b>Family Euagridae Raven, 1979</b>			
<i>Allothele malawi</i> Coyle, 1984	1	LC	AE
<b>Family Filistatidae Simon, 1864</b>			
<i>Andoharano ansieae</i> Zonstein & Marusik, 2015	2	LC	STHE
<b>Family Gallieniellidae Millot, 1947</b>			
<i>Austrachelas entabeni</i> Haddad & Mbo, 2017 *	5	DD	SAE
<i>Drassodella venda</i> Mbo & Haddad, 2019 * (Fig. 8)	5	LC	SAE
<b>Family Gnaphosidae Banks, 1892</b>			
<i>Afrodrassex balrog</i> Haddad & Booyens, 2022	2	LC	STHE
<i>Ammoxenus psammodromus</i> Simon, 1910	2	LC	STHE
<i>Aneplasa interrogationis</i> Tucker, 1923	3	LC	SAE
<i>Aphantaulax inornata</i> Tucker, 1923	2	LC	STHE
<i>Asemesthes ceresicola</i> Tucker, 1923 (Fig. 9)	3	LC	SAE
<i>Asemesthes flavipes</i> Purcell, 1908	2	LC	STHE
<i>Asemesthes fodina</i> Tucker, 1923	2	LC	STHE
<i>Asemesthes lineatus</i> Purcell, 1908	1	LC	AE
<i>Asemesthes numisma</i> Tucker, 1923	2	LC	STHE
<i>Asemesthes pallidus</i> Purcell, 1908	3	LC	SAE

Family / Species	END	CS	DIS
<i>Asemesthes paynteri</i> Tucker, 1923	3	LC	SAE
<i>Asemesthes purcelli</i> Tucker, 1923	2	LC	STHE
<i>Asemesthes reflexus</i> Tucker, 1923	3	LC	SAE
<i>Asemesthes</i> sp. 10 (new)	–	NE	–
<i>Camillina cordifera</i> (Tullgren, 1910)	1	LC	AE
<i>Drassodes helenae</i> Purcell, 1907	3	LC	SAE
<i>Drassodes solitarius</i> Purcell, 1907	2	LC	STHE
<i>Echemus erutus</i> Tucker, 1923	2	LC	STHE
<i>Ibala arcus</i> (Tucker, 1923) (Fig. 10)	2	LC	STHE
<i>Ibala bilinearis</i> (Tucker, 1923)	2	LC	STHE
<i>Ibala bulawayensis</i> (Tucker, 1923)	2	LC	STHE
<i>Leptodrassex murphyi</i> Haddad & Boosy, 2022	2	LC	STHE
<i>Megamyrmaekion transvaalense</i> Tucker, 1923	3	LC	SAE
<i>Nomisia varia</i> (Tucker, 1923)	2	LC	STHE
<i>Pterotricha auris</i> (Tucker, 1923)	3	LC	SAE
<i>Rastellus kariba</i> Platnick & Griffin, 1990	2	LC	STHE
<i>Scotophaeus marleyi</i> Tucker, 1923	3	LC	SAE
<i>Setaphis subtilis</i> (Simon, 1897)	0	LC	C
<i>Xerophaeus appendiculatus</i> Purcell, 1907	3	LC	SAE
<i>Xerophaeus aurariarum</i> Purcell, 1907	2	LC	STHE
<i>Xerophaeus bicavus</i> Tucker, 1923	3	LC	SAE
<i>Zelotes aestus</i> (Tucker, 1923)	2	LC	STHE
<i>Zelotes aridus</i> (Purcell, 1907)	1	LC	AE
<i>Zelotes caldarius</i> (Purcell, 1907)	2	LC	STHE
<i>Zelotes chinguli</i> Fitzpatrick, 2007	2	LC	STHE
<i>Zelotes corrugatus</i> (Purcell, 1907)	1	LC	AE
<i>Zelotes fuligineus</i> (Purcell, 1907)	1	LC	AE
<i>Zelotes haplodrassoides</i> (Denis, 1955)	1	LC	AE
<i>Zelotes humilis</i> (Purcell, 1907)	2	LC	STHE
<i>Zelotes namaquus</i> FitzPatrick, 2007	3	LC	SAE
<i>Zelotes natalensis</i> Tucker, 1923	2	LC	STHE
<i>Zelotes otavi</i> Fitzpatrick, 2007	2	LC	STHE
<i>Zelotes radiatus</i> Lawrence, 1928	2	LC	STHE
<i>Zelotes scrutatus</i> (O.P.-Cambridge, 1872)	1	LC	AE
<i>Zelotes tuckeri</i> Roewer, 1951	1	LC	AE
<b>Family Hahniidae Bertkau, 1878</b>			
<i>Hahnia tabulicola</i> Simon, 1898	1	LC	AE
<b>Family Hersiliidae Thorell, 1869</b>			
<i>Hersilia sagitta</i> Foord & Dippenaar-Schoeman, 2006	1	LC	AE
<i>Hersilia sericea</i> Pocock, 1899	2	LC	AE
<i>Hersilia setifrons</i> Lawrence, 1928	2	LC	STHE
<i>Tyrotama soutpansbergensis</i> Foord & Dippenaar-Schoeman, 2005 * (Fig. 11)	5	VU	SAE
<b>Family Idiopidae Simon, 1889</b>			
<i>Ctenolophus fenoulheti</i> Hewitt, 1913	3	LC	SAE
<i>Galeosoma vandami</i> Hewitt, 1913	5	LC	SAE
<i>Idiops castaneus</i> Hewitt, 1913	4	LC	SAE
<i>Segregara paucispinulosus</i> (Hewitt, 1915)	5	LC	SAE
<b>Family Linyphiidae Blackwall, 1859</b>			
<i>Agyneta habra</i> (Locket, 1968)	1	LC	AE
<i>Agyneta natalensis</i> (Jocqué, 1984)	3	LC	SAE
<i>Agyneta prosectoides</i> (Locket & Russell-Smith, 1980)	1	LC	AE
<i>Mecynidis dentipalpis</i> Simon, 1894	2	LC	STHE
<i>Metaleptyphantes perexiguus</i> (Simon & Fage, 1922)	1	LC	AE

Family / Species	END	CS	DIS
<i>Microlinyphia sterilis</i> (Pavesi, 1883)	1	LC	AE
<i>Neriene natalensis</i> Van Helsdingen, 1969	3	LC	SAE
<b>Family Liocranidae Simon, 1897</b>			
<i>Rhaeboctesis exilis</i> Tucker, 1920	3	LC	SAE
<i>Rhaeboctesis trinotatus</i> Tucker, 1920	2	LC	STHE
<b>Family Lycosidae Sundevall, 1833</b>			
<i>Allocosa exserta</i> Roewer, 1959	2	LC	STHE
<i>Allocosa lawrencei</i> (Roewer, 1951)	2	LC	STHE
<i>Allocosa testacea</i> Roewer, 1959	3	DD	SAE
<i>Evippomma squamulatum</i> (Simon, 1898) (Fig. 12)	2	LC	STHE
<i>Foveosa foveolata</i> (Purcell, 1903)	1	LC	AE
<i>Hippasa elienae</i> Alderweireldt & Jocqué, 2005	1	LC	AE
<i>Hippasa funerea</i> Lessert, 1925	2	LC	STHE
<i>Hippasosa guttata</i> (Karsch, 1878)	1	LC	AE
<i>Hogna spenceri</i> (Pocock, 1898)	1	LC	AE
<i>Minicosa neptuna</i> Alderweireldt & Jocqué, 2006	3	LC	STHE
<i>Pardosa crassipalpis</i> Purcell, 1903	2	LC	STHE
<i>Pardosa leipoldti</i> Purcell, 1903	2	LC	STHE
<i>Pardosa umtalica</i> Purcell, 1903	1	LC	AE
<i>Proevippa albiventris</i> (Simon, 1898)	2	LC	STHE
<i>Proevippa fascicularis</i> (Purcell, 1903)	2	LC	STHE
<i>Proevippa wanlessi</i> (Russell-Smith, 1981)	3	LC	SAE
<i>Trabea heteroculata</i> Strand, 1913	1	LC	AE
<i>Trabea purcelli</i> Roewer, 1951	1	LC	AE
<i>Zenonina albocaudata</i> Lawrence, 1952	3	LC	SAE
Lycosidae sp. 1 (undetermined)	-	NE	-
<b>Family Macrobrunidae Bonnet, 1957</b>			
<i>Chresiona invalida</i> (Simon, 1898)	3	LC	SAE
<i>Pseudauximus annulatus</i> Purcell, 1908	4	DD	SAE
New genus (new species)	-	NE	-
<b>Family Migidae Simon, 1889</b>			
<i>Moggridgea pymi</i> Hewitt, 1914	2	LC	STHE
<i>Poecilomigas</i> sp. 1 (new)	-	NE	-
<b>Family Mimetidae Simon, 1881</b>			
<i>Anansi natalensis</i> (Lawrence, 1938)	3	LC	SAE
<i>Ero lawrencei</i> Unzicker, 1966	2	LC	STHE
<i>Mimetus cornutus</i> Lawrence, 1947	2	LC	STHE
<b>Family Nesticidae Simon, 1894</b>			
<i>Nesticella benoiti</i> (Hubert, 1970)	2	LC	STHE
<b>Family Oecobiidae Blackwall, 1862</b>			
<i>Oecobius navus</i> Blackwall, 1859	0	LC	C
<i>Uroecobius ecribellatus</i> Kullmann & Zimmermann, 1976	3	LC	SAE
<b>Family Oonopidae Simon, 1890</b>			
<i>Gamasomorpha australis</i> Hewitt, 1915	3	LC	SAE
<i>Gamasomorpha humicola</i> Lawrence, 1947	3	LC	SAE
<i>Opopaea speciosa</i> (Lawrence, 1952)	1	LC	AE
<i>Orchestina fannesi</i> Henrad & Jocqué 2012	2	LC	STHE
<b>Family Orsolobidae Cooke, 1965</b>			
<i>Afrilobus</i> sp. 1 (new)	-	NE	-
<i>Azania lobus lawrencei</i> Griswold & Platnick, 1987	2	LC	STHE
<b>Family Oxyopidae Thorell, 1869</b>			
<i>Hamataliwa fronticornis</i> (Lessert, 1927)	1	LC	AE
<i>Hamataliwa kulczynskii</i> (Lessert, 1915)	1	LC	AE
<i>Hamataliwa rostrifrons</i> (Lawrence, 1928)	2	LC	STHE

Family / Species	END	CS	DIS
<i>Hamataliwa rufocaligata</i> Simon, 1898	1	LC	AE
<i>Hamataliwa strandi</i> (Lessert, 1923)	2	LC	STHE
<i>Oxyopes angulitarsus</i> Lessert, 1915	1	LC	AE
<i>Oxyopes bedoti</i> Lessert, 1915	1	LC	AE
<i>Oxyopes bonneti</i> Lessert, 1933	2	LC	STHE
<i>Oxyopes bothai</i> Lessert, 1915 (Fig. 12)	1	LC	AE
<i>Oxyopes dumonti</i> (Vinson, 1863)	1	LC	AE
<i>Oxyopes falconeri</i> Lessert, 1915	1	LC	AE
<i>Oxyopes flavipalpis</i> (Lucas, 1858)	1	LC	AE
<i>Oxyopes hoggi</i> Lessert, 1915	1	LC	AE
<i>Oxyopes jacksoni</i> Lessert, 1915	1	LC	AE
<i>Oxyopes longispinosus</i> Lawrence, 1938	3	LC	SAE
<i>Oxyopes pallidecoloratus</i> Strand, 1906	1	LC	AE
<i>Oxyopes russoi</i> Caporiacco, 1940	1	LC	AE
<i>Oxyopes schenkeli</i> Lessert, 1917	1	LC	AE
<i>Oxyopes singularis</i> Lessert, 1927	1	LC	AE
<i>Peucetia crucifera</i> Lawrence, 1927	2	LC	STHE
<i>Peucetia viridis</i> (Blackwall, 1858)	1	LC	AE
<b>Family Palpimanidae Thorell, 1870</b>			
<i>Diaphorocellus biplagiatus</i> Simon, 1893	2	LC	STHE
<i>Palpimanus armatus</i> Pocock, 1898	2	LC	STHE
<i>Palpimanus potteri</i> Lawrence, 1937	3	LC	SAE
<i>Palpimanus pseudarmatus</i> Lawrence, 1952	3	LC	SAE
<i>Palpimanus transvaalicus</i> Simon, 1893	3	LC	SAE
<b>Family Penestomidae Simon, 1903</b>			
<i>Penestomus</i> sp. 1 (new)	-	NE	-
<b>Family Philodromidae Thorell, 1869</b>			
<i>Hirriusa arenacea</i> (Lawrence, 1927)	2	LC	STHE
<i>Hirriusa bidentata</i> (Lawrence, 1927)	2	LC	STHE
<i>Hirriusa variegata</i> (Simon, 1895)	3	LC	SAE
<i>Philodromus brachycephalus</i> Lawrence, 1952	1	LC	AE
<i>Philodromus browningi</i> Lawrence, 1952	2	LC	STHE
<i>Philodromus grosi</i> Lessert, 1943	1	LC	AE
<i>Philodromus guineensis</i> Millot, 1941	1	LC	AE
<i>Philodromus</i> sp. 5 (undetermined)	-	NE	-
<i>Suemus punctatus</i> Lawrence, 1938	2	LC	STHE
<i>Thanatus dorsilineatus</i> Jézéquel, 1964	1	LC	AE
<i>Thanatus vulgaris</i> Simon, 1870	0	LC	C
<i>Tibellus australis</i> (Simon, 1910)	2	LC	STHE
<i>Tibellus bruneitarsis</i> Lawrence, 1952	2	LC	STHE
<i>Tibellus minor</i> Lessert, 1919	1	LC	AE
<i>Tibellus sunetae</i> Van den Berg & Dippenaar-Schoeman, 1994	2	LC	STHE
New genus (new species)	-	NE	-
<b>Family Pholcidae C. L. Koch, 1850</b>			
<i>Leptopholcus gracilis</i> Berland, 1920	1	LC	AE
<i>Quamtana bonamanzi</i> Huber, 2003	3	LC	SAE
<i>Quamtana entabeni</i> Huber, 2003 * (Fig. 27)	5	RA	SAE
<i>Quamtana hectori</i> Huber, 2003	3	LC	SAE
<i>Quamtana lajuma</i> Huber, 2003 *	5	DD	SAE
<i>Smeringopus hanglip</i> Huber, 2012*	5	RA	SAE
<i>Smeringopus natalensis</i> Lawrence, 1947	2	LC	STHE
<b>Family Phyxelididae Lehtinen, 1967</b>			
<i>Phyxelida makapanensis</i> Simon, 1894	3	LC	SAE
<i>Vidole sothoana</i> Griswold, 1990	2	LC	STHE

Family / Species	END	CS	DIS
<i>Xevioso kulufa</i> Griswold, 1990 *	3	LC	SAE
<b>Family Pisauridae Simon, 1890</b>			
<i>Afropisaura rothiformis</i> (Strand, 1908)	1	LC	AE
<i>Charminus ambiguus</i> (Lessert, 1925)	1	LC	AE
<i>Chiasmopes lineatus</i> (Pocock, 1898)	1	LC	AE
<i>Cispis problematicus</i> Blandin, 1978	1	LC	AE
<i>Euprosthenops bayaonianus</i> Brito Capello 1867	1	LC	AE
<i>Euprosthenopsis pulchella</i> (Pocock, 1902)	2	LC	STHE
<i>Euprosthenopsis vuattouxi</i> Blandin, 1977 (Fig. 28)	1	LC	AE
<i>Maypacius roeweri</i> Blandin, 1975	1	LC	AE
<i>Nilus margaritatus</i> (Pocock, 1898)	1	LC	AE
<i>Nilus massajae</i> (Pavesi, 1883) (Fig. 13)	1	LC	AE
<i>Rothus aethiopicus</i> (Pavesi, 1883)	1	LC	AE
<b>Family Prodidomidae Simon, 1884</b>			
<i>Austrodomus scaber</i> (Purcell, 1904)	2	LC	STHE
<i>Eleleis limpopo</i> Rodrigues & Rheims, 2020	1	LC	AE
<i>Prodidomus capensis</i> Purcell, 1904	3	LC	SAE
<i>Theuma elucubata</i> Tucker, 1923	3	LC	SAE
<i>Theuma fusca</i> Purcell, 1907	2	LC	STHE
<i>Theuma purcelli</i> Tucker, 1923	3	LC	SAE
<i>Theuma maculata</i> Purcell, 1907	2	LC	STHE
<b>Family Salticidae Blackwall, 1841</b>			
<i>Araflacilla altera</i> (Wesołowska, 2000)	2	LC	STHE
<i>Araflacilla elegans</i> (Wesołowska & Cumming, 2008)	2	LC	STHE
<i>Asemonea clara</i> Wesołowska & Haddad, 2013	3	LC	SAE
<i>Baryphas ahenus</i> Simon, 1902	1	LC	AE
<i>Belippo meridionalis</i> Wesołowska & Haddad, 2013	3	LC	SAE
<i>Bianor albobimaculatus</i> (Lucas, 1846)	0	LC	C
<i>Cyrba lineata</i> Wanless, 1984	2	LC	STHE
<i>Cyrba nigromana</i> Simon, 1900	3	LC	SAE
<i>Dendryphantes hararensis</i> Wesołowska & Cumming, 2008	2	LC	STHE
<i>Evarcha flagellaris</i> Haddad & Wesołowska, 2011	1	LC	AE
<i>Evarcha ignea</i> Wesołowska & Cumming, 2008	1	LC	AE
<i>Evarcha prosimilis</i> Wesołowska & Cumming, 2008	1	LC	AE
<i>Evarcha wernerii</i> (Simon, 1906)	1	LC	AE
<i>Festucula leroyae</i> Azarkina & Foord, 2014	2	LC	STHE
<i>Goleba puella</i> (Simon, 1885)	1	LC	AE
<i>Habrocestum auricomum</i> Haddad & Wesołowska, 2013	5	DD	SAE
<i>Habrocestum superbum</i> Wesołowska, 2000	2	LC	STHE
<i>Helafricanus debilis</i> (Simon, 1901)	1	LC	AE
<i>Helafricanus pistaciae</i> (Wesołowska, 2003)	2	LC	STHE
<i>Helafricanus trepidus</i> Simon, 1910	2	LC	STHE
<i>Holcolaetis zuluensis</i> Lawrence, 1937	1	LC	AE
<i>Hyllus argyrotoxus</i> Simon, 1902 (Fig. 18)	1	LC	AE
<i>Hyllus brevitarsis</i> Simon, 1902 (Fig. 17)	1	LC	AE
<i>Hyllus dotatus</i> (Peckham & Peckham, 1903)	1	LC	AE
<i>Hyllus treleaveni</i> Peckham & Peckham, 1903	1	LC	AE
<i>Iranattus principalis</i> Wesołowska, 2000	1	LC	AE
<i>Icius insolitus</i> (Wesołowska, 1999)	2	LC	STHE
<i>Langelurillus minutus</i> Wesołowska & Cumming, 2011	2	LC	STHE
<i>Langelurillus</i> sp. 1 (new)	-	NE	-
<i>Langona bethae</i> Wesołowska & Cumming, 2011	2	LC	STHE
<i>Langona bisecta</i> Lawrence, 1927	2	LC	STHE
<i>Langona tortuosa</i> Wesołowska, 2011	2	LC	STHE

Family / Species	END	CS	DIS
<i>Massagris</i> sp. 1 (undetermined)	-	NE	-
<i>Menemerus minshullae</i> Wesołowska, 1999	1	LC	AE
<i>Menemerus natalis</i> Wesołowska, 1999	3	LC	SAE
<i>Menemerus zimbabwensis</i> Wesołowska, 1999	2	LC	STHE
<i>Mexcala quadrimaculata</i> (Lawrence, 1942)	2	LC	STHE
<i>Mogrus mathisi</i> (Berland & Millot, 1941)	0	LC	C
<i>Myrmarachne ichneumon</i> (Simon, 1886)	1	LC	AE
<i>Myrmarachne inflatipalpis</i> Wanless, 1978	1	LC	AE
<i>Myrmarachne lulengana</i> Roewer, 1965	1	LC	AE
<i>Myrmarachne marshalli</i> Peckham & Peckham, 1903	1	LC	AE
<i>Natta horizontalis</i> Karsch, 1879	1	LC	AE
<i>Nigorella hirsuta</i> Wesołowska, 2009	2	LC	STHE
<i>Pachyballus transversus</i> Simon, 1900	1	LC	AE
<i>Parajotus obscurufemoratus</i> Peckham & Peckham, 1903	3	LC	SAE
<i>Parajotus refulgens</i> Wesołowska, 2000	1	LC	AE
<i>Pellenes bulawayoensis</i> Wesołowska, 2000	2	LC	STHE
<i>Pellenes modicus</i> Wesołowska & Russell-Smith, 2000	1	LC	AE
<i>Pellenes pulcher</i> Logunov, 1995	0	LC	C
<i>Pellenes tharinae</i> Wesołowska, 2006	2	LC	STHE
<i>Phintella aequipes</i> (Peckham & Peckham, 1903)	1	LC	AE
<i>Phintella australis</i> (Simon, 1902)	3	LC	SAE
<i>Phintella lajuma</i> Haddad & Wesołowska, 2013 * (Fig. 14)	3	LC	SAE
<i>Phlegra simplex</i> Wesołowska & Russell-Smith, 2000	1	LC	AE
<i>Phlegra varia</i> Wesołowska & Russell-Smith, 2000	1	LC	AE
<i>Pignus simoni</i> (Peckham & Peckham, 1903)	2	LC	STHE
<i>Portia schultzi</i> Karsch, 1878	1	LC	AE
<i>Pseudicius</i> sp. 1 (undetermined)	-	NE	-
<i>Rhene machadoi</i> Berland & Millot, 1941	1	LC	AE
<i>Rumburak tuberatus</i> Wesołowska, Azarkina & Russell-Smith, 2014 * (Fig. 15)	5	DD	SAE
<i>Sonoita lightfooti</i> Peckham & Peckham, 1903	1	LC	AE
<i>Stenaelurillus guttiger</i> (Simon, 1901)	2	LC	STHE
<i>Stenaelurillus termitophagus</i> (Wesołowska & Cumming, 1999)	2	LC	STHE
<i>Tanzania parvulus</i> Wesołowska, Azarkina & Russell-Smith, 2014	3	LC	SAE
<i>Thyene bilineata</i> Lawrence, 1927	2	LC	STHE
<i>Thyene bucculenta</i> (Gerstäcker, 1873)	1	LC	AE
<i>Thyene coccineovittata</i> (Simon, 1886)	1	LC	AE
<i>Thyene dakarensis</i> (Berland & Millot, 1941)	1	LC	AE
<i>Thyene inflata</i> (Gerstäcker, 1873)	1	LC	AE
<i>Thyene leighi</i> Peckham & Peckham, 1903	1	LC	AE
<i>Thyene muticus</i> (Simon, 1902)	1	LC	AE
<i>Thyene natalii</i> Peckham & Peckham, 1903	1	LC	AE
<i>Thyene ogdeni</i> Peckham & Peckham, 1903	1	LC	AE
<i>Thyene semiargentea</i> (Simon, 1884)	1	LC	AE
<i>Thyene thyenioides</i> (Lessert, 1925)	1	LC	AE
<i>Thyenula aurantiaca</i> (Simon, 1902)	2	LC	STHE
<i>Thyenula oranjensis</i> Wesołowska, 2001	3	LC	SAE
<i>Thyenula sempiterna</i> Wesołowska, 2000	2	LC	STHE
<i>Thyenula wesolowskae</i> Zhang & Maddison, 2012	4	LC	SAE
<i>Tomomingi szutsi</i> Wesołowska & Haddad, 2013 *	4	DD	SAE
<i>Trapezocephalus lesserti</i> (Wesołowska, 1986)	1	LC	AE
<i>Trapezocephalus orchestra</i> (Simon, 1885)	1	LC	AE
<i>Tusitala barbata</i> Peckham & Peckham, 1902	1	LC	AE
<i>Tusitala hirsuta</i> Peckham & Peckham, 1902	1	LC	AE

Family / Species	END	CS	DIS
<b>Family Scytodidae Blackwall, 1864</b>			
<i>Scytodes clavata</i> Benoit, 1965	1	LC	AE
<i>Scytodes maritima</i> Lawrence, 1938	3	LC	SAE
<i>Scytodes quinqua</i> Lawrence, 1927	2	LC	STHE
<i>Scytodes thoracica</i> (Latreille, 1802)	0	LC	C
<b>Family Segestriidae Simon, 1893</b>			
<i>Ariadna bilineata</i> Purcell, 1904 (Fig. 29)	3	LC	SAE
<b>Family Selenopidae Simon, 1897</b>			
<i>Anyphops barbertonensis</i> (Lawrence, 1940)	1	LC	AE
<i>Anyphops leleupi</i> Benoit, 1972	4	LC	SAE
<i>Anyphops ngome</i> Corronca, 2005	3	LC	SAE
<i>Anyphops reservatus</i> (Lawrence, 1937)	3	LC	SAE
<i>Anyphops spenceri</i> (Pocock, 1896)	3	LC	SAE
<i>Selenops brachycephalus</i> Lawrence, 1940	2	LC	STHE
<i>Selenops dilon</i> Corronca, 2002	4	DD	SAE
<i>Selenops tenebrosus</i> Lawrence, 1940	2	LC	STHE
<i>Selenops zuluanus</i> Lawrence, 1940	2	LC	STHE
<b>Family Sicariidae Keyserling, 1880</b>			
<i>Hexophthalma hahni</i> (Karsch, 1878)	2	LC	STHE
<i>Loxosceles haddadi</i> Lotz, 2017 *	6	DD	SAE
<i>Loxosceles simillima</i> Lawrence, 1927	1	LC	AE
<b>Family Sparassidae Bertkau, 1872</b>			
<i>Eusparassus borakalalo</i> Moradmand, 2013	4	LC	SAE
<i>Olios correroni nigrifrons</i> Lawrence, 1928	1	LC	AE
<i>Olios sjostedti</i> Lessert, 1921	1	LC	AE
<i>Olios</i> sp. 3 (undetermined)	-	NE	-
<i>Palystes leroyorum</i> Croeser, 1996	3	LC	SAE
<i>Palystes superciliosus</i> L. Koch, 1875	2	LC	STHE
<i>Pseudomicrommata longipes</i> (Bösenberg & Lenz, 1895)	1	LC	AE
<i>Pseudomicrommata vittigera</i> (Simon, 1897)	2	LC	STHE
<b>Family Stasimopidae Bond, Opatova &amp; Hedin, 2020</b>			
<i>Stasimopus</i> sp. 1 (new)	-	NE	-
<b>Family Tetragnathidae Menge, 186</b>			
<i>Diphya foordi</i> Omelko, Marusik & Lyle, 2020 *	3	LC	SAE
<i>Diphya wesolowskae</i> Omelko, Marusik & Lyle, 2020 *	3	RA	SAE
<i>Leucauge argyrescens</i> Benoit, 1978	1	LC	AE
<i>Leucauge decorata</i> (Blackwall, 1864)	0	LC	C
<i>Leucauge festiva</i> (Blackwall, 1866)	1	LC	AE
<i>Leucauge levanderi</i> (Kulczynski, 1901)	1	LC	AE
<i>Leucauge medjensis</i> Lessert, 1930	1	LC	AE
<i>Leucauge thomeensis</i> Kraus, 1960	1	LC	AE
<i>Meta meruensis</i> Tullgren, 1910	1	LC	AE
<i>Pachygnatha leleupi</i> Lawrence, 1952	1	LC	AE
<i>Tetragnatha bogotensis</i> Keyserling, 1865 (Fig. 30)	0	LC	C
<i>Tetragnatha keyserlingi</i> Simon, 1890	0	LC	C
<i>Tetragnatha nitens</i> (Audouin, 1826)	0	LC	C
<i>Tetragnatha subsquamata</i> Okuma, 1985	1	LC	AE
<b>Family Theraphosidae Thorell, 1869</b>			
<i>Augacephalus junodi</i> (Simon, 1904)	2	LC	STHE
<i>Ceratogyrus brachycephalus</i> Hewitt, 1919	4	DD	SAE
<i>Ceratogyrus darlingi</i> Pocock, 1897	2	LC	STHE
<i>Harpactirella overdijiki</i> Gallon, 2010	3	DD	SAE
<i>Idiothele nigrofulva</i> (Pocock, 1898)	2	LC	STHE
<i>Pterinochilus lugardi</i> Pocock, 1900	1	LC	AE

Family / Species	END	CS	DIS
<b>Family Theridiidae Sundevall, 1833</b>			
<i>Anelosimus nelsoni</i> Agnarsson, 2006	3	LC	SAE
<i>Argyrodes convivans</i> Lawrence, 1937	2	LC	STHE
<i>Argyrodes zonatus</i> (Walckenaer, 1841) (Fig. 31)	1	LC	AE
<i>Chorizopella tragardhi</i> Lawrence, 1947	3	LC	SAE
<i>Chrysso</i> sp. 1 (undetermined)	-	NE	-
<i>Coleosoma cf blandum</i> O.P.-Cambridge, 1882	-	NE	-
<i>Coscinida tibialis</i> Simon, 1895	0	LC	C
<i>Dipoena</i> sp. 1 (undetermined)	-	NE	-
<i>Episinus bilineatus</i> Simon, 1894	2	LC	STHE
<i>Episinus marignaci</i> (Lessert, 1933)	2	LC	STHE
<i>Euryopis episinooides</i> (Walckenaer, 1847)	0	LC	C
<i>Euryopis funebris</i> (Hentz, 1850)	0	LC	C
<i>Latrodectus geometricus</i> C.L. Koch, 1841	0	LC	C
<i>Latrodectus renivulvatus</i> Dahl, 1902	1	LC	AE
<i>Phorocidia eburnea</i> (Simon, 1895)	3	LC	SAE
<i>Phycosoma martiniae</i> (Roberts, 1983)	0	LC	C
<i>Platnickina adamsoni</i> (Berland, 1934)	0	LC	C
<i>Rhomphaea nasica</i> (Simon, 1873)	0	LC	C
<i>Ruborridion</i> sp. 1 (undetermined)	-	NE	-
<i>Steatoda capensis</i> Hann, 1990	0	LC	C
<i>Steatoda grossa</i> (C.L. Koch, 1838)	1	LC	C
<i>Theridion pictum</i> (Walckenaer, 1802)	0	LC	C
<i>Theridion purcelli</i> O.P.-Cambridge, 1904	3	LC	SAE
<i>Theridion</i> sp. 1 (undetermined)	-	NE	-
<i>Theridion</i> sp. 2 (undetermined)	-	NE	-
<i>Thymoites</i> sp. 1 (undetermined)	-	NE	-
<i>Thwaitesia</i> sp. 1 (undetermined)	-	NE	-
<i>Tidarren scenicum</i> (Thorell, 1899)	1	LC	AE
<b>Family Thomisidae Sundevall, 1833</b>			
<i>Ansiae tuckeri</i> (Lessert, 1919)	1	LC	AE
<i>Borboropactus silvicola</i> (Lawrence, 1938)	3	LC	SAE
<i>Camaricus nigrotesselatus</i> Simon, 1895	1	LC	AE
<i>Diae puncta</i> Karsch, 1884	1	LC	AE
<i>Geraesta congoensis</i> (Lessert, 1943)	1	LC	AE
<i>Heriaeus crassispinus</i> Lawrence, 1942 (Fig. 16)	1	LC	AE
<i>Heriaeus peterwebbi</i> Van Niekerk & Dippenaar-Schoeman, 2013	2	LC	STHE
<i>Misumenops rubrodecoratus</i> Millot, 1942	1	LC	AE
<i>Monaeses austrinus</i> Simon, 1910	1	LC	AE
<i>Mystaria flavogutatta</i> (Lawrence, 1952)	1	LC	AE
<i>Mystaria lata</i> (Lawrence, 1927)	2	LC	STHE
<i>Mystaria rufolimbata</i> Simon, 1895	1	LC	AE
<i>Mystaria savannensis</i> Lewis & Dippenaar-Schoeman, 2014	1	LC	AE
<i>Oxytate argenteooculata</i> (Simon, 1886)	1	LC	AE
<i>Oxytate concolor</i> (Caporiacco, 1947)	1	LC	AE
<i>Oxytate ribes</i> (Jézéquel, 1964)	1	LC	AE
<i>Ozyptila caenosa</i> Jézéquel, 1966	1	LC	AE
<i>Pactactes compactus</i> Lawrence, 1947	3	LC	SAE
<i>Parabomis martini</i> Lessert, 1919	1	LC	AE
<i>Pherecydes ionae</i> Dippenaar-Schoeman, 1980	1	LC	AE
<i>Pherecydes lucinae</i> Dippenaar-Schoeman, 1980	3	LC	SAE
<i>Pherecydes nicolaasi</i> Dippenaar-Schoeman, 1980	3	LC	SAE
<i>Pherecydes zebra</i> Lawrence, 1927	1	LC	AE
<i>Runcinia aethiops</i> (Simon, 1901)	1	LC	AE

Family / Species	END	CS	DIS
<i>Runcinia flava</i> (Simon, 1881)	0	LC	C
<i>Simorcus cotti</i> Lessert, 1936	1	LC	AE
<i>Sylligma ndumi</i> Honiball & Dippenaar-Schoeman 2011	2	LC	STHE
<i>Synema decens</i> (Karsch, 1878)	2	LC	STHE
<i>Synema diana</i> (Audouin, 1826)	1	LC	AE
<i>Synema imitatrix</i> (Pavesi, 1883)	1	LC	AE
<i>Synema langheldi</i> Dahl, 1907	1	LC	AE
<i>Synema nigrotibiale</i> Lessert, 1919	1	LC	AE
<i>Synema vallotoni</i> Lessert, 1923	2	LC	STHE
<i>Thomisops bullatus</i> Simon, 1895	2	LC	STHE
<i>Thomisops pupa</i> Karsch, 1879	1	LC	AE
<i>Thomisus australis</i> Comellini, 1957	1	LC	AE
<i>Thomisus citrinellus</i> Simon, 1875	0	LC	C
<i>Thomisus congoensis</i> Comellini, 1957	1	LC	AE
<i>Thomisus dalmasi</i> Lessert, 1919	1	LC	AE
<i>Thomisus daradiooides</i> Simon, 1890	0	LC	C
<i>Thomisus granulatus</i> Karsch, 1880	1	LC	AE
<i>Thomisus kalaharinus</i> Lawrence, 1936	1	LC	AE
<i>Thomisus scrupus</i> (Simon, 1886)	1	LC	AE
<i>Thomisus spiculosus</i> Pocock, 1901	1	LC	AE
<i>Tmarus africanus</i> Lessert, 1919	1	LC	AE
<i>Tmarus cameliformis</i> Millot, 1942	1	LC	AE
<i>Tmarus comellinii</i> Garcia-Neto, 1989	1	LC	AE
<i>Tmarus foliatus</i> Lessert, 1928	1	LC	AE
<i>Tmarus planetarius</i> Simon, 1903	1	LC	AE
<i>Xysticus natalensis</i> Lawrence, 1938	2	LC	STHE
<i>Synema decens</i> (Karsch, 1878)	2	LC	STHE
<i>Synema diana</i> (Audouin, 1826)	1	LC	AE
<i>Synema imitatrix</i> (Pavesi, 1883)	1	LC	AE
<i>Synema langheldi</i> Dahl, 1907	1	LC	AE
<i>Synema nigrotibiale</i> Lessert, 1919	1	LC	AE
<i>Synema vallotoni</i> Lessert, 1923	2	LC	STHE
<i>Thomisops bullatus</i> Simon, 1895	2	LC	STHE
<i>Thomisops pupa</i> Karsch, 1879	1	LC	AE
<i>Thomisus australis</i> Comellini, 1957	1	LC	AE
<i>Thomisus citrinellus</i> Simon, 1875	0	LC	C
<i>Thomisus congoensis</i> Comellini, 1957	1	LC	AE
<i>Thomisus dalmasi</i> Lessert, 1919	1	LC	AE
<i>Thomisus daradiooides</i> Simon, 1890	0	LC	C
<i>Thomisus granulatus</i> Karsch, 1880	1	LC	AE
<i>Thomisus kalaharinus</i> Lawrence, 1936	1	LC	AE
<i>Thomisus scrupus</i> (Simon, 1886)	1	LC	AE
<i>Thomisus spiculosus</i> Pocock, 1901	1	LC	AE
<i>Tmarus africanus</i> Lessert, 1919	1	LC	AE
<i>Tmarus cameliformis</i> Millot, 1942	1	LC	AE
<i>Tmarus comellinii</i> Garcia-Neto, 1989	1	LC	AE
<i>Tmarus foliatus</i> Lessert, 1928	1	LC	AE
<i>Tmarus planetarius</i> Simon, 1903	1	LC	AE
<i>Xysticus natalensis</i> Lawrence, 1938	2	LC	STHE
<i>Xysticus urbensis</i> Lawrence, 1952	2	LC	STHE
<i>Tmarus africanus</i> Lessert, 1919	1	LC	AE
<i>Tmarus cameliformis</i> Millot, 1942	1	LC	AE
<i>Tmarus comellinii</i> Garcia-Neto, 1989	1	LC	AE
<i>Tmarus foliatus</i> Lessert, 1928	1	LC	AE
<i>Tmarus planetarius</i> Simon, 1903	1	LC	AE

Family / Species	END	CS	DIS
<i>Xysticus natalensis</i> Lawrence, 1938	2	LC	STHE
<i>Xysticus urbensis</i> Lawrence, 1952	2	LC	STHE
<b>Family Trachelidae Simon, 1897</b>			
<i>Afroceto martini</i> (Simon, 1897)	2	LC	STHE
<i>Coronarachne unigena</i> Haddad & Lyle, 2024 *	3	LC	SAE
<i>Falcaranea maputensis</i> Haddad & Lyle, 2024	2	LC	STHE
<i>Fuchiba aquilonia</i> Haddad & Lyle, 2008 *	2	LC	STHE
<i>Fuchibotulus kigelia</i> Haddad & Lyle, 2008	2	LC	STHE
<i>Jocquestus incurvus</i> Lyle & Haddad, 2018 *	4	LC	SAE
<i>Orthobula radiata</i> Simon, 1897	1	LC	AE
<i>Patelloceto secutor</i> Lyle & Haddad, 2010	2	LC	STHE
<i>Thysanina serica</i> Simon, 1910	2	LC	STHE
<i>Thysanina transversa</i> Lyle & Haddad, 2006 *	3	LC	SAE
<i>Trachelas scopulifer</i> Simon, 1896	3	DD	SAE
<i>Trachelas</i> sp. 1 (new)	-	NE	-
<i>Trachelas</i> sp. 2 (new)	-	NE	-
<i>Trachelas</i> sp. 3 (new)	-	NE	-
<b>Family Trochanteriidae Karsch, 1879</b>			
<i>Platyoides alpha</i> Lawrence, 1928	2	LC	STHE
<i>Platyoides pusillus</i> Pocock, 1898	1	LC	AE
<i>Platyoides walteri</i> (Karsch, 1886)	1	LC	AE
<b>Family Uloboridae Thorell, 1869</b>			
<i>Hyptiotes akermani</i> Wiegle, 1964	3	LC	SAE
<i>Miagrammopes brevicaudus</i> O.P.-Cambridge, 1882 (Fig. 32)	2	LC	STHE
<i>Miagrammopes constrictus</i> Purcell, 1904	3	LC	SAE
<i>Uloborus plumipes</i> Lucas, 1846	0	LC	C
<i>Zosis geniculata</i> (Olivier, 1789)	1	LC	AE
<b>Family Zodariidae Thorell, 1881</b>			
<i>Australutica africana</i> Jocqué, 2008 *	5	RA	SAE
<i>Ballomma neethlingi</i> Jocqué & Henrard, 2015 *	5	DD	SAE
<i>Caesetius bevisi</i> (Hewitt, 1916)	2	LC	STHE
<i>Caesetius globicoxis</i> (Lawrence, 1942)	3	LC	SAE
<i>Caesetius inflatus</i> Jocqué, 1991	1	LC	AE
<i>Capheris crassimana</i> (Simon, 1887)	2	LC	STHE
<i>Capheris decorata</i> Simon, 1904	1	LC	AE
<i>Chariobas cylindraceus</i> Simon, 1893	1	LC	AE
<i>Cydrela schoemanae</i> Jocqué, 1991 (Fig. 17)	3	LC	SAE
<i>Cydrela spinifrons</i> Hewitt, 1915	3	LC	SAE
<i>Cydrela spinimana</i> Pocock, 1898	3	LC	SAE
<i>Cydrela</i> sp. 4 (new)	-	NE	-
<i>Cyrioctea marken</i> Platnick & Jocqué, 1992	5	DD	SAE
<i>Diores auricula</i> Tucker, 1920	2	LC	STHE
<i>Diores lesserti</i> Lawrence, 1952	3	LC	STHE
<i>Diores magicus</i> Jocqué & Dippenaar-Schoeman, 1992	2	LC	STHE
<i>Diores recurvatus</i> Jocqué, 1990	2	LC	STHE
<i>Diores triarmatus</i> Lessert, 1929	1	LC	AE
<i>Heradida bicincta</i> Simon, 1910	2	LC	STHE
<i>Mastidiores</i> sp. 1 (undetermined)	-	NE	-
<i>Microdiores</i> sp. 1 (undetermined)	-	NE	-
<i>Psammorygma aculeatum</i> (Karsch, 1878)	3	LC	SAE
<i>Ranops robinae</i> Jocqué & Henrard, 2020	3	LC	SAE
<i>Systemoplacis fagei</i> (Lawrence, 1936)	3	LC	SAE
<i>Thaumastochilus</i> sp. 1 (immature)	-	NE	-
<b>Family Zoropsidae Bertkau, 1882</b>			
<i>Griswoldia leleupi</i> (Griswold, 1991)	5	LC	SAE

## Conservation status

Most species (516 spp., 88.2%) have a wide distribution without known threats and are listed as Least Concern (Table 4). Sufficient data is still lacking for 17 spp. (2.9%), which are listed as Data Deficient. Forty-four species (7.5%) were not evaluated because they were either new or current taxonomic support was lacking (Table 6).

## Species of special concern

The spider fauna of the SM has eight species listed as being of special concern (Table 4), which include the following: Rare (5 spp.), Critically Rare (1 sp.), Vulnerable (1 sp.) or Near Threatened (1 sp.) (Table 5). IUCN uses the term “rare” as a designation for species found in isolated geographical locations. Rare species are generally considered threatened because a small population size is less likely to recover from ecological disasters. All these species require further collection and monitoring to improve our knowledge of their distribution. This can only be achieved through a concerted collecting effort in under-sampled areas and developing taxonomic expertise dedicated to revising and describing the fauna (Dippenaar-Schoeman et al. 2023).

## Conclusion

The last decade has seen exponential growth in the knowledge of spiders in South Africa, but several more species are to be discovered, and distribution patterns determined. The first checklist (Foord et al. 2002) was published more than two decades ago and listed 127 species from the SM, but the number has since increased to 585 species with the publication of this checklist. Owen (2010) has stressed the importance of continued long-term monitoring when assessing the diversity, particularly for invertebrates whose populations show major inter-seasonal and inter-annual fluctuations. The SM represents an old and climatically stable geographic feature in Limpopo Province, which provides refuge for 585 spider species. The species collected represent 25.4% of the total spider fauna of South Africa and 64.3% of the Limpopo Province fauna. Conservation biologists must prioritise their efforts, limited funds, manpower, and time, and this necessitates the identification of hotspots for conservation (Myers et al. 2000). The spider data emphasises the significance of the SM as a biodiversity hotspot with high spider endemism in the Limpopo Province. Eight species are of special concern that need to be monitored in the future. The broad range of ecological studies in the SM that have included spiders as indicator taxa not only elucidates the impacts of various anthropogenic factors on their faunistic composition but has also provided invaluable material to better understand the distribution patterns of the fauna. However, there is still a considerable taxonomic deficit for many groups, and resolving this shortfall is essential to better conserve the unique taxa occurring in the SM. Mapping patterns of endemism, rarity and threats across the landscape is the starting point for such a process, while Red List assessments provide the framework for evaluating these criteria at the species level, linking them to extinction risk and guiding conservation initiatives. This will require investment in capacity building through postgraduate student

development, sourcing targeted funding from the government and the private sector, attracting international researchers to work on the South African spider fauna, promoting the importance of natural history collections to society, and by improving financial support to ensure their long-term use and development.

## Acknowledgements

This paper is dedicated to the memory of our late colleague and co-author, Professor Stefan Foord, whose incredible contribution to the success of SANSA as an ecologist, data analyst and taxonomist will be sorely missed in the years to come. The authors would like to thank the Agricultural Research Council (ARC); the South African National Biodiversity Institute (SANBI), Threatened Species Programme for funding the South African National Survey of Arachnida (SANSA); support of the National Research Foundation (NRF) and the Department of Science & Technology (DST) through the Centre of Excellence for Invasion Biology and the South African Research Chairs Initiative (SARChI) Chair on Biodiversity Value and Change in the Vhembe Biosphere Reserve; the staff of the Arachnology section of the ARC–National Collection of Arachnida for their assistance with processing and databasing the material collected; all the people from the University of Venda for their survey efforts, particularly Jerry Molepo, Evans Mauda and Ratshibvumo Tshikambu for field and lab support; Leon Lotz, Charles Haddad, Jeremy Miller and the late Peter Webb for their photographs; and land owners for making their properties available for surveys: Dave Dewsnap, Steven and Marianne Fick, Stefan Otto, Jabu and Birthe Linden and Lajuma Research Station.

## Additional information

### Conflict of interest

The authors have declared that no competing interests exist.

### Ethical statement

No ethical statement was reported.

### Funding

This research was supported by a grant from the University of Venda RPC committee (Grant no. P109) and funding through the NRF Chair in Biodiversity Value and Change.

### Author contributions

ASD conceptualised, identified material, managed the database and wrote the first draft; CM collected and curated data and comments on drafts of the manuscript; CS was involved in specimen sampling and commented on drafts of the manuscript; NH assisted with the planning and layout of the transect and specimen sampling, prepared the map, and commented on the manuscript drafts; SF was the manager of all the surveys.

### Author ORCIDs

Ansie S. Dippenaar-Schoeman  <https://orcid.org/0000-0003-1532-1379>

T. Caswell Munyai  <https://orcid.org/0000-0002-1562-2385>

Colin S. Schoeman  <https://orcid.org/0000-0001-8585-5857>

Norbert Hahn  <https://orcid.org/0000-0002-1186-7713>  
Stefan H. Foord  <https://orcid.org/0000-0002-9195-2562>

## Data availability

All data supporting this study's findings are available in the SANSA database.

## References

Bosselaers J, Jocqué R (2000) *Hortipes*, a huge genus of tiny Afrotropical spiders (Araneae, Liocranidae). *Bulletin of the American Museum of Natural History* 256(1): 1–108. [https://doi.org/10.1206/0003-0090\(2000\)256<0004:HAHGOT>2.0.CO;2](https://doi.org/10.1206/0003-0090(2000)256<0004:HAHGOT>2.0.CO;2)

Dippenaar SM, Dippenaar-Schoeman AS, Modiba MA, Khoza TT (2008) A checklist of spiders (Arachnida, Araneae) of the Polokwane Nature Reserve, Limpopo Province, South Africa. *Koedoe* 50(1): 10–17. <https://doi.org/10.4102/koedoe.v50i1.128>

Dippenaar-Schoeman AS, Genis NdL, Van Ark H, Viljoen JH (1978) The effect of Diel-drin cover spraying on some South African spiders and scorpions. *Phytophylatica* 10: 115–122.

Dippenaar-Schoeman AS (2023) Field Guide of the Spiders of South Africa. Struik Nature, 400 pp.

Dippenaar-Schoeman AS, Van den Berg AM, Van den Berg A (1999) Spiders in South African cotton fields: species diversity and abundance (Arachnida: Araneae). *African Plant Protection* 5: 93–103.

Dippenaar-Schoeman AS, Van den Berg A, Prendini L (2009) Spiders and Scorpions (Arachnida; Araneae, Scorpiones) of the Nylsvley Nature Reserve, South Africa. *Koedoe* 51(1): a161. <https://doi.org/10.4102/koedoe.v51i1.161>

Dippenaar-Schoeman AS, Foord SH, Haddad CR (2013a) Spiders of the Savanna Biome. University of Venda & Agricultural Research Council, 134 pp.

Dippenaar-Schoeman AS, Van den Berg AM, Haddad CR, Lyle R (2013b) Spiders in South African agroecosystems: A review (Arachnida, Araneae). *Transactions of the Royal Society of South Africa* 68: 57–74. <https://doi.org/10.1080/0035919X.2012.755136>

Dippenaar-Schoeman AS, Haddad CR, Foord SH, Lyle R, Lotz LN, Marais P (2015) South African National Survey of Arachnida (SANSA): review of current knowledge, constraints and future needs for documenting spider diversity (Arachnida: Araneae). *Transactions of the Royal Society of South Africa* 70(3): 245–275. <https://doi.org/10.1080/0035919X.2015.1088486>

Dippenaar-Schoeman AS, Foord SH, Haddad CR (2021) A list of spider species found in the Marakele National Park, Limpopo Province, South Africa (Arachnida: Araneae). *SANSA Newsletter* 37: 9–15. <https://doi.org/10.5281/zenodo.5948097>

Dippenaar-Schoeman AS, Haddad CR, Lotz LN, Booyens R, Steenkamp RC, Foord SH (2023) Checklist of the spiders (Araneae) of South Africa. *African Invertebrates* 64(3): 221–289. <https://doi.org/10.3897/AfrInvertebr.64.111047>

FitzPatrick MJ (2007) A taxonomic revision of the Afrotropical species of *Zelotes* (Arachnida: Araneae: Gnaphosidae). *Arachnology* 14(3): 97–172. <https://doi.org/10.13156/arac.2011.14.3.97>

Foord SH (2023) Pitfall trapping in the Waterberg massif. *SANSA Newsletter* 45: 4. <https://doi.org/10.5281/zenodo.7827671>

Foord SH, Dippenaar-Schoeman AS (2016) The effect of elevation and time on mountain spider diversity: A view of two aspects in the Cederberg mountains of South Africa. *Journal of Biogeography* 43(12): 2354–2365. <https://doi.org/10.1111/jbi.12817>

Foord SH, Dippenaar-Schoeman AS, van der Merwe M (2002) A check list of the spider fauna of the Western Soutpansberg, South Africa (Arachnida: Araneae). *Koedoe* 45(2): 35–43. <https://doi.org/10.4102/koedoe.v45i2.25>

Foord SH, Mafadza M, Dippenaar-Schoeman AS, Van Rensburg BJ (2008) Micro-scale heterogeneity of spiders (Arachnida: Araneae) in the Soutpansberg, South Africa: a comparative survey and inventory in representative habitats. *African Zoology* 43(2): 156–174. <https://doi.org/10.3377/1562-7020-43.2.156>

Foord SH, Dippenaar-Schoeman AS, Haddad CR, Lotz LN, Lyle R (2011) The faunistic diversity of spiders (Arachnida: Araneae) of the Savanna Biome in South Africa. *Transactions of the Royal Society of South Africa* 66(3): 170–201. <https://doi.org/10.1080/0035919X.2011.639406>

Foord SH, Dippenaar-Schoeman AS, Stam EM (2013) Surrogates of spider diversity, leveraging the conservation of a poorly known group in the Savanna Biome of South Africa. *Biological Conservation* 161: 203–212. <https://doi.org/10.1016/j.biocon.2013.02.011>

Foord SH, Dippenaar-Schoeman AS, Jocqué R, Haddad CR, Lyle R, Webb P (2016) South African National Survey of Arachnida: A checklist of the spiders (Arachnida, Araneae) of the Lekgalameetse Nature Reserve, Limpopo province, South Africa. *Koedoe* 58(1): 8 pp. <https://doi.org/10.4102/koedoe.v58i1.1405>

Foord SH, Swanepoel LH, Evans SW, Schoeman CS, Erasmus BFN, Schoeman MC, Keith M, Smith A, Mauda EV, Maree N, Nembudani N, Dippenaar-Schoeman AS, Munyai TC, Taylor PJ (2018) Animal taxa contrast in their scale-dependent responses to land use change in rural Africa. *PLoS One* 13(5): e0194336. <https://doi.org/10.1371/journal.pone.0194336>

Foord SH, Dippenaar-Schoeman AS, Haddad CR, Lyle R, Lotz LN, Sethusa T, Raimondo D (2020) The South African National Red List of spiders: Patterns, threats, and conservation. *The Journal of Arachnology* 48(2): 110–118. <https://doi.org/10.1636/0161-8202-48.2.110>

Foord SH, Dippenaar-Schoeman AS, Munyai CT (2022) Spiders across the Soutpansberg. *SANSA Newsletter* 41: 5. <https://doi.org/10.5281/zenodo.6482312>

Griswold CE (1987) A review of the southern African spiders of the family Cyatholipidae Simon, 1894 (Araneae: Araneomorphae). *Annals of the Natal Museum* 28: 499–542.

Haddad CR (2009) *Vendaphaea*, a new dark sac spider genus apparently endemic to the Soutpansberg Mountains, South Africa (Araneae: Corinnidae). *African Invertebrates* 50(2): 269–278. <https://doi.org/10.5733/afin.050.0204>

Haddad CR, Dippenaar-Schoeman AS (2015) Diversity of non-acarine arachnids of the Ophathe Game Reserve, South Africa: Testing a rapid sampling protocol, *Koedoe* 57(1): Art. #1255, 15 pp. <https://doi.org/10.4102/koedoe.v57i1.1255>

Haddad CR, Dippenaar-Schoeman AS, Foord SH, Lotz L, Lyle R (2013) The faunistic diversity of spiders (Arachnida, Araneae) of the Grassland Biome in South Africa. *Transactions of the Royal Society of South Africa* 68(2): 97–122. <https://doi.org/10.1080/0035919X.2013.773267>

Hahn N (2006) Floristic diversity of the Soutpansberg, Limpopo Province, South Africa. Ph.D. thesis, University of Pretoria, Pretoria.

Hahn N (2011) Refinement of the Soutpansberg Geomorphic Province, Limpopo, South Africa. *Transactions of the Royal Society of South Africa* 66(1): 32–40. <https://doi.org/10.1080/0035919X.2011.566422>

Huber BA (2003) Southern African pholcid spiders: revision and cladistic analysis of *Quamtana* gen. nov. and *Spermaphora* Hentz (Araneae: Pholcidae), with notes on

male-female covariation. *Zoological Journal of the Linnean Society* 139(4): 477–527. <https://doi.org/10.1046/j.0024-4082.2003.00082.x>

Jocqué R (2008) A new candidate for a Gondwanaland distribution in Zodariidae (Araneae): *Australutica* in Africa. *ZooKeys* 1: 59–66. <https://doi.org/10.3897/zookeys.1.10>

Jocqué R, Henrard A (2015) *Ballomma*, a new Afrotropical genus in the Cryptothelinae (Araneae, Zodariidae): Eyes on the run. *European Journal of Taxonomy* 163(163): 1–24. <https://doi.org/10.5852/ejt.2015.163>

Jocqué R, Alderweireldt M, Dippenaar-Schoeman A (2013) Biodiversity, an African perspective. In: Penney D (Ed.) *Spider research in the 21<sup>st</sup> century*. Siri Scientific press, 18–57.

Joseph GS, Mauda EV, Seymour CL, Munyai TC, Dippenaar-Schoeman A, Foord SH (2017) Landuse change in savannas disproportionately reduces functional diversity of invertebrate predators at the highest trophic levels: Spiders as an example. *Ecosystems* (New York, N.Y.) 21(5): 930–942. <https://doi.org/10.1007/s10021-017-0194-0>

Lotz LN (1996) Afrotropical Archaeidae (Araneae): 1. New species of *Afrarchaea* with notes on *Afrarchaea godfreyi* (Hewitt, 1919). *Navorsinge van die Nasionale Museum Bloemfontein* 12: 141–160.

Lotz LN (2003) Afrotropical Archaeidae: 2. New species of the genera *Archaea* and *Afrarchaea* (Arachnida: Araneae). *Navorsinge van die Nasionale Museum Bloemfontein* 19: 221–240.

Modiba M, Dippenaar S, Dippenaar-Schoeman AS (2005) A checklist of spiders from Sovenga Hill, an inselberg in the Savanna Biome, Limpopo Province, South Africa (Arachnida: Araneae). *Koedoe* 48(2): 109–115. <https://doi.org/10.4102/koedoe.v48i2.95>

Mostert THC, Bredenkamp GJ, Klopper HL, Verwey C, Mostert RE, Hahn N (2008) Major vegetation types of the Soutpansberg Conservancy and the Blouberg Nature Reserve, South Africa. *Koedoe* 50(1): 32–48. <https://doi.org/10.4102/koedoe.v50i1.125>

Muelwa M, Foord SH, Dippenaar-Schoeman AS, Stam EM (2010) Towards a standardized and optimized protocol for rapid biodiversity assessments: Spider species richness and assemblage composition in two savanna vegetation types. *African Zoology* 45(2): 273–290. <https://doi.org/10.3377/004.045.0206>

Munyai TC, Foord SH (2012a) Ants on a mountain: Spatial, environmental and habitat associations along an altitudinal transect in a centre of endemism. *Journal of Insect Conservation* 16(5): 677–695. <https://doi.org/10.1007/s10841-011-9449-9>

Munyai TC, Foord SH (2012b) Temporal patterns of ant diversity across a mountain with climatically contrasting aspects in the tropics of Africa. *PLoS One* 10(3): e0122035. <https://doi.org/10.1371/journal.pone.0122035>

Myers N, Mittermeier RA, Mittermeier CG, da Fonseca GAB, Kent J (2000) Biodiversity hotspots for conservation priorities. *Nature* 403(6772): 853–858. <https://doi.org/10.1038/35002501>

Owen J (2010) *Wildlife of a garden: A Thirty-year study*. Royal Horticultural Society, London.

Robertson MP, Cumming GS, Erasmus BFN (2010) Getting the most out of atlas data. *Diversity & Distributions* 16(3): 363–375. <https://doi.org/10.1111/j.1472-4642.2010.00639.x>

Schoeman CS, Foord SH (2021) Buffer zones maximize invertebrate conservation in a Biosphere Reserve. *Journal of Insect Conservation* 25(4): 597–609. <https://doi.org/10.1007/s10841-021-00326-7>

Van Wyk AE, Smith GF (2001) *Regions of Floristic Endemism in Southern Africa*. Umduas Press, Pretoria.

Whitmore C, Slotow R, Crouch TE, Dippenaar-Schoeman AS (2001) Checklist of spiders (Araneae) from a savanna ecosystem, Northern Province, South Africa: Including a new family record. *Durban Museum Novitates* 26: 10–19.

Whitmore C, Slotow R, Crouch TE, Dippenaar-Schoeman AS (2002) Diversity of spiders (Araneae) in a Savanna reserve, Northern Province, South Africa. *The Journal of Arachnology* 30(2): 344–356. [https://doi.org/10.1636/0161-8202\(2002\)030\[0344:DOSAIA\]2.0.CO;2](https://doi.org/10.1636/0161-8202(2002)030[0344:DOSAIA]2.0.CO;2)